April 1983

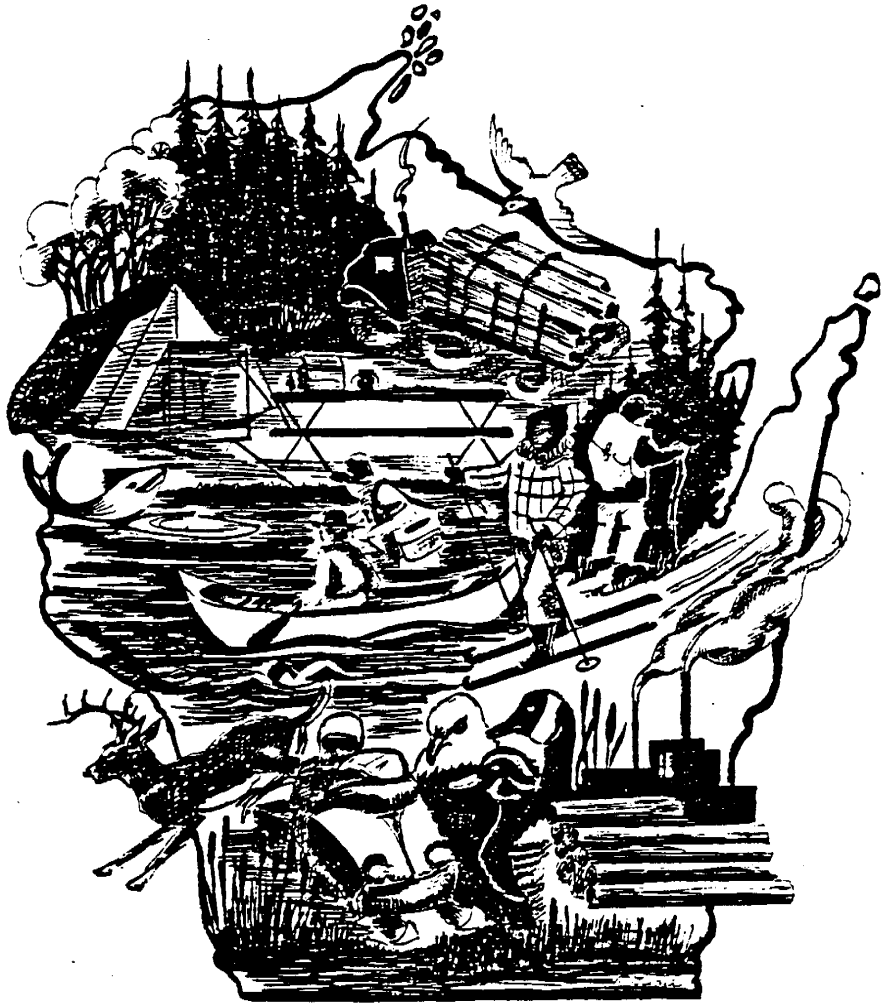
BLACK RIVER STATE FOREST

Master Plan

CONCEPT ELEMENT

Approved by
Natural Resources Board

5-25-83
Date



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MASTER PLAN

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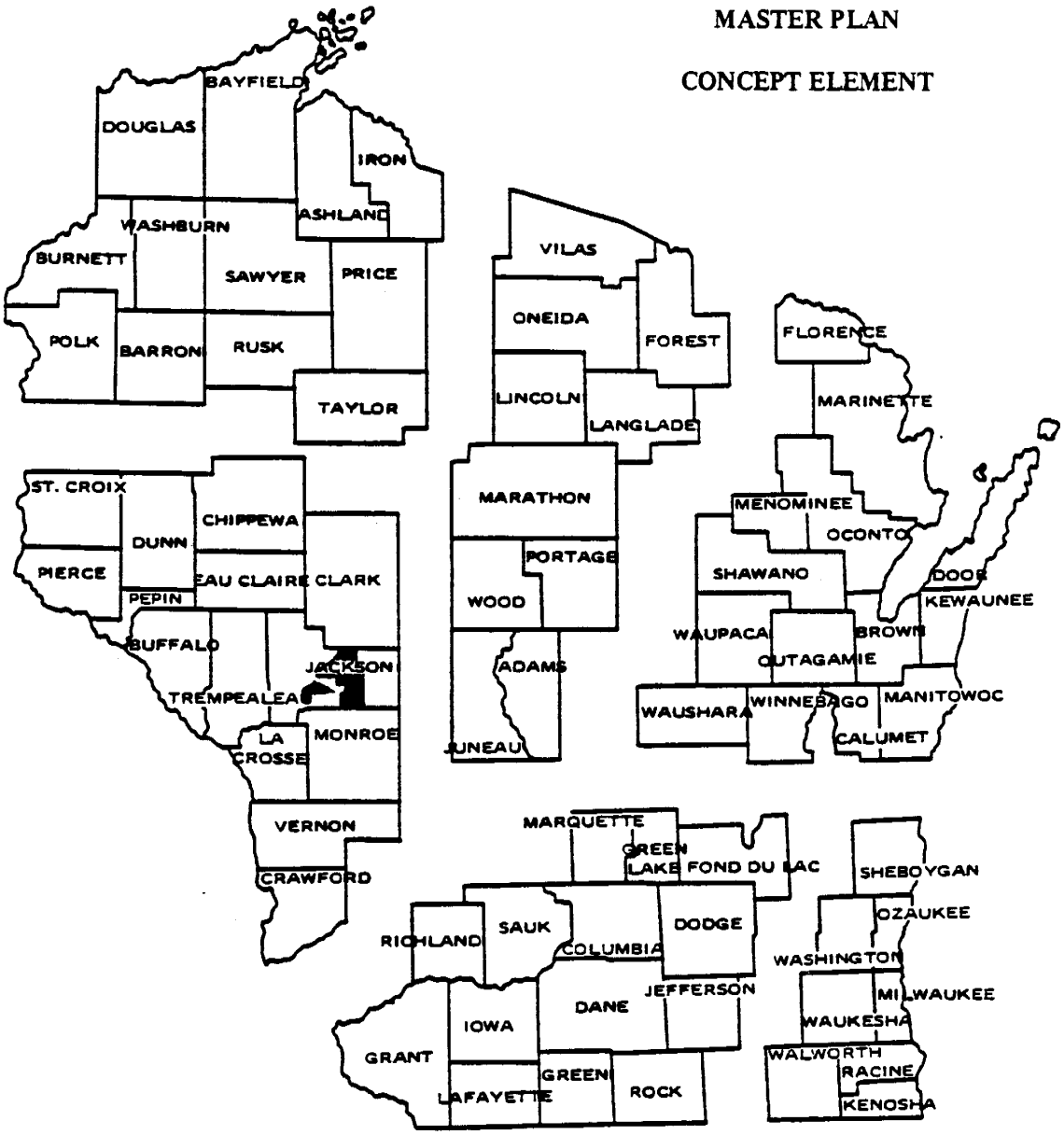

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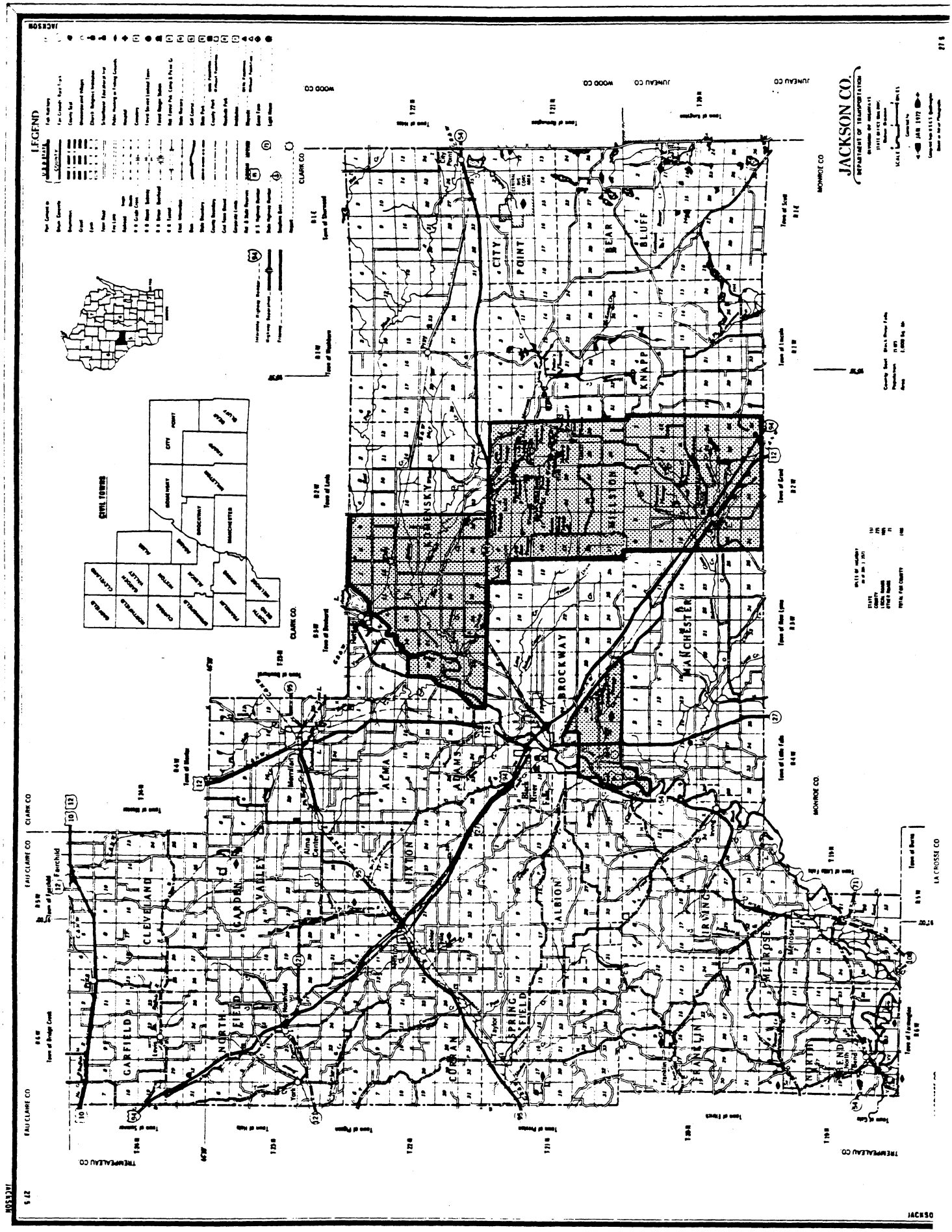
JACKSON CO.
DEPARTMENT OF TRANSPORTATION
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SECTION I

ACTIONS

A. GOALS AND OBJECTIVES

1. Goal:

To manage and protect the resources of the Forest and to provide for the economic utilization of forest products with additional emphasis on multiple-use benefits for society.

2. Objectives:

a. Harvest 2,000 acres of timber annually through 1986. Thereafter, gradually reduce the acreage to an annual cut of 970 acres.

b. Increase the productivity, quality, and value of the forest resource by performing 450 acres of timber stand improvement and 150 acres of forced pine regeneration per year.

c. Accommodate 300,000 visitors annually for recreational activities such as camping, picnicking, swimming, hiking, cross-country skiing, snowmobiling, backpacking, hunting, fishing and trail bike riding.

d. Manage forest wildlife habitat to provide for fall populations of 40 deer and 80 ruffed grouse per square mile.

e. Manage the fisheries resource to provide for 12,000 fishing days per year.

f. Acquire approximately 60 acres per year of remaining private lands as they become available from willing sellers, until the acreage goal of 71,804 acres is met.

g. Harvest 100 acres of Sphagnum moss annually.

3. Additional benefits:

a. Scenic beauty.

b. Recreational activities requiring no special development, such as: sightseeing, canoeing, snowshoeing, and birdwatching.

c. Educational activities such as school field days and nature study.

d. Permissible consumptive use activities: berry picking, mushrooming, minnow trapping, and trapping of furbearers.

B. RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

1. Forest Management (Objectives a and b)

The calculated annual allowable cut on the forest is 970 acres. However, because the even-aged types (mainly aspen, oak and jack pine) originated around 50 years ago, there is a significant imbalance in the acreage distribution of age classes, e.g., 43% of the total jack pine type is over 46 years old. To utilize the mature timber and to gradually correct this imbalance, an annual total harvest of 2,000 acres is planned through 1986. The annual cut will then gradually diminish over the following ten years. Around 1996, the normal allowable cut of 970 acres per year will be resumed.

A total of 4,200 acres are currently classed as White pine and 5,700 acres as red pine. Most of the white pine type seeded in naturally, whereas most of the Red pine type was planted. 6,053 acres of the combined types is in sawtimber and poletimber size classes. Over 300 acres per year will be thinned in these combined types. The thinnings are designed to achieve optimum stocking levels for desirable growth and form. They are accomplished commercially. That is, the standing trees are designated, then sold under contract by sealed bid. Thinnings take place periodically until the trees reach biological maturity under the guidelines of "big tree silviculture" as explained in the Background Section. The regeneration cuts then take place to provide for the next rotation.

Between the time a forest stand originates and the final harvest takes place, certain intermediate practices besides thinning may be required to increase growth and quality of the trees that are desired. These practices are collectively called "timber stand improvement".

Exclusive of the commercial thinning previously discussed, the highest priority timber stand improvement need is release. Release is the removal of an overstory of trees or brush of little economic value that are overtopping or threatening to overtop a more valuable stand of timber.

This could involve the removal of brush and hardwood sprouts from a young pine plantation or removal of scrub oak from above natural pine regeneration. It can be accomplished by mechanically girdling or cutting the overstory or by the use of herbicides. 1,800 acres should be released within the next five years. Most of the release work has been accomplished by crews from the Black River Correctional Camp. Although herbicides have not been used in recent years, limited use is contemplated as an inexpensive and efficient way to accomplish some of the release work needed.

A variety of new herbicides have been developed in recent years which control certain types of vegetation and not others. This selectivity allows the forest manager to temporarily suppress competing vegetation to favor the growth of desirable trees.

Herbicide application will be in conformance with Manual Code 4231 and the label instructions as approved by the U.S. Environmental Protection Agency.

Herbicides can be applied in a number of ways. The procedures under consideration are mist blower, tree injection, aerial, and granular application by hand. The herbicides proposed for use at this time are Round-up and Velpar grid balls or granules. All work would be accomplisned under the supervision of a licensed applicator.

There are over 5,000 acres of Red and White pine in need of pruning. Pruning is accomplished in Red and White pine stands to produce knot-free lumber when trees are cut for saw logs. It is carried out when trees are pole size. It may be done in three steps: to 9, 12 and 17 feet; or in two steps, to 9 and 17 feet. At least 50% of the tree height is left in live crown. All the pruning is accomplished by crews from the Black River Correctional Camp.

Because of a progressive tree planting program over the years and natural seeding of White pine, the large open areas that were suitable have been reforested. Current planting projects consist mainly of converting poor quality hardwood areas, planting or seeding harvested Jack pine areas, reforesting burned over lands and planting a few non-forested areas acquired.

Plantations are high production area which produce up to 2 cords per acre per year. There are over 5,000 acres of plantation on the forest at present. Planting of Red pine and direct seeding of Jack pine are planned on 100 acres per year.

In many cases, some form of site preparation is required prior to planting or seeding, or to encourage natural Jack pine seeding. This may be accomplished by furrowing, scarification of the

soil or limited use of prescribed burning or herbicides. Herbicide use would be the same as that described for release work. Site preparation is planned for 150 acres per year.

(Objective g) There are 6,392 acres of marsh or muskeg on the Forest. Most of this acreage contains Sphagnum moss. An industry utilizing this resource exists in central Wisconsin. The moss is sold to contractors who harvest it, bale it and resell it to brokers who ship it to various industries. Approximately 100 acres of moss is sold annually on the state forest. This is expected to continue. Sphagnum moss is a renewable resource. A given marsh can be harvested in approximate five-year cycles.

2. Recreation (Objective c)

Because the state forest is a large contiguous land area, a wide variety of recreational opportunities can be offered, ranging from highly developed facilities to extensive uses such as hunting and fishing. The management concept calls for keeping the developed facilities rustic in nature.

The Forest provides a variety of camping opportunities including three family campgrounds and a group campground. There is also a canoe campsite and backpack camping is allowed by permit. Day-use facilities include beach and picnic areas, waysides, vistas and canoe landings. Snowmobile, trail bike and ski trails have been developed (Appendix IV). State forest lands receive heavy use for hiking, bird watching, sightseeing and berry picking. Since sightseeing is a major use on the Forest, natural beauty is a major consideration for all programs, especially timber management. Aesthetic zones have been established and will be discussed further in the plan (p. 13).

Proposed developments are based on existing and future use, population trends, and the economy. Developments proposed in this plan emphasize the improvement and replacement of facilities at existing use areas rather than creation of new recreational areas. This is because of the perception that present and projected demand do not warrant development of new use areas for the foreseeable future.

It is proposed to improve the group campground as follows:

a. Raze the existing old farmhouse and replace it with an enclosed shelter.

b. Construct a self-guided nature trail and hiking trails which could also be used for cross-country skiing in the winter.

Improve facilities at Castle Mound Campground:

a. Replace the old toilet buildings in the center of the campground with an eight-unit building of modern design.

b. Construct a sanitary station for travel trailers.

c. Install electrical hook-ups at six sites.

There is an increasing demand for sanitary stations and electrical hook-ups. It is felt that these facilities will increase attendance at the campground.

A new loop with 10 new campsites was developed at Pigeon Creek Campground in 1980. Blacktop surfacing is required on the loop road.

Replace the existing wood frame toilet buildings at Pigeon Creek Picnic Area and construct change stalls in conjunction with the new toilet building.

Remove two sets of toilet buildings at the Castle Mound Picnic Area and construct a new eight-unit building in a more central location.

Construct five car parking lots and small, walk-in picnic areas at Teal and Wildcat Flowages.

Improve the parking lot and canoe landing on the Black River at the mouth of Morrison Creek.

Blacktop parking lot for ski area on Smrekar Road.

A fourteen-mile loop of the snowmobile trail system in Millston Township is also designated for use by trail motorcycles. Jackson County has developed a series of motorcycle trails on county forest lands with funds provided by the motorcycle recreation program. These funds are provided to local units of government as grants-in-aid, for the acquisition, development, operation, and maintenance of trails, areas, and facilities. They are not available for state forests. When and if the state forest becomes eligible for funding, a trail linking the fourteen-mile loop to county trails could be constructed.

An interpretive driving route is planned for the North Settlement Road from County Trunk "O" to State Highway "54". this would consist of a series of numbered stops explaining the history and management of the state forest. It is planned to be incorporated with the Wazee Trail.

3. Wildlife Management (Objective d)

Wildlife management on the state forest is directed primarily at deer and ruffed grouse habitat (except for the Dike 17 Wildlife Area, which has a separate plan in the Appendix). However, other species of forest wildlife are also benefited. It is closely coordinated with forestry activities. The program is guided by Administrative Code NR 1 and DNR Manual Codes 2112, 2112.1, and 2112.2.

Aspen is a critical type on the state forest. It covers 5,300 acres, which is 8% of the total acreage. Aspen maintenance will be accomplished through timber sales and removal of residual trees from timber sales areas. This provides adequate regeneration through sprouting. The harvesting of mature aspen is beneficial both from forestry and wildlife standpoints.

Oak is an important forest wildlife species because of mast production. The oak type presently comprises 21% of the forest acreage. The best quality oak stands should be perpetuated through programmed timber sales, to maintain 15% of the forest in that type.

Protection will be provided for endangered and threatened species that may be found to inhabit the forest. Eagles have been observed from time to time, but nesting sites have not been found. If located on the state forest, guidelines in Manual Code 2328.1 will be followed.

4. Fish Management (Objective e)

Generally, fish populations within the state forest are limited by the infertility of the water and shallowness of the flowages. The only stocking is done at Oxbow Ponds, where 2,000 Rainbow and Brook trout are stocked annually.

Access to the Black River is adequate with a number of public landings from Hatfield to Melrose.

5. Land Control (Objective f)

The land acquisition concept is to acquire lands to provide for the protection and efficient management of the natural resources within the boundaries of the state forest. The following criteria will be used to establish priorities for land acquisition on the Black River State Forest:

- lands which are subject to uses (developments) which are incompatible with state forest objectives.

- Lands needed for future developments.

- Lands which provide multiple forest and recreational benefits according to statewide needs.

- Lands which consolidate ownership to facilitate management objectives.

- Lands for the protection, preservation, enhancement, and interpretation of unusual environmental values according to the Wild Resources Resolution of the Natural Resources Board.

- Lands which have unique scenic or natural beauty characteristics.

There are over 76,000 acres within the current boundaries of the state forest. Present ownership is 65,228.84 acres of which 80 acres are outside the Forest boundary. The acreage goal is 71,804 acres.

It is proposed to make four boundary changes:

a. Exclude the area west of the Black River described as: T21N, R4W, Section 27, all lands west of the Black River and section 28, the E 1/2 west of the Black River; Albion Township. This is about 410 acres.

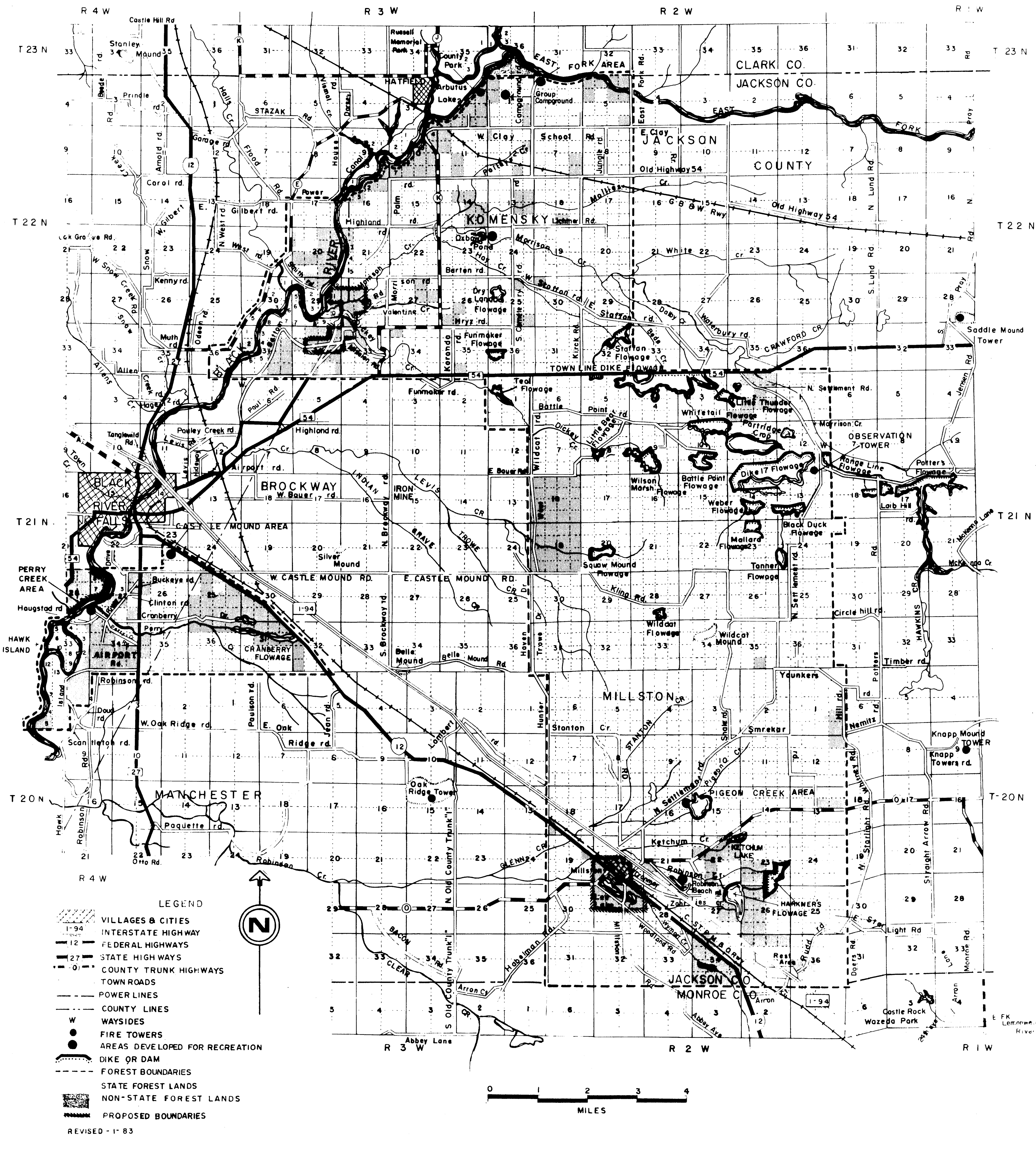
b. Remove from the boundary the following descriptions at the Winnebago Mission: T22N, R3W, section 28, south 1/2 NW 1/4, N 1/2 SW 1/4, and SWSW; section 29, SENE; section 32, SENW, NENE, S 1/2 NE 1/4; section 33, NWNW, 440 acres.

c. Remove from the boundary the Village of Millston and lands to the south described as follows: T20N, R2W, section 20, SW 1/4 and W 1/2 SE 1/4; section 29, N 1/2 lying south of U.S. Highway "12". 485 acres.

BLACK RIVER STATE FOREST

Wisconsin Department of Natural Resources

January 1983



d. Expand the boundary approximately 150 acres as follows: Clark County, T23N, R3W, section 36 lying south of Lake Arbutus and the East Fork of the Black river. Approximately 200 acres.

These proposals will remove from the boundary 1,335 acres and add 200, for a net change of minus 1,135 acres. This will not affect the acreage goal since the privately-owned lands still exceed the 6,655.16 acres to be acquired to meet the goal of 71,804.

Land is only purchased from willing sellers at fair market value. Lands with high valued developments are generally not considered for acquisition because of the high costs per acre.

It is projected that acquisition will proceed at an average of 60 acres per year. At this rate, it will take 110 years to complete the acreage goal.

The state will continue to make an in-lieu of tax payment to towns for state-owned land within their boundaries. On lands purchased after July 1, 1969, the payment is based on local assessments made following acquisition, multiplied by the county, local and school tax rate levied for that year. The law directs that this formula shall decrease at the rate of 10% yearly after the first 100% payment. In the tenth year, and thereafter, the state will pay 10% of the first year's payment, but in no event will this drop below 50¢ per acre.

The state pays the towns 50¢ per acre on lands acquired before July 1, 1969.

SECTION II

SUPPORT DATA

A. BACKGROUND INFORMATION

1. History

The area within the Black River Forest was first subjected to severe logging in 1850; followed by repeated burning until the early 1900's. The land was then settled by homesteaders seeking farming land made available through the Homestead Act. Much of this land was submarginal for common agricultural purposes. In the 1930's, the United States Resettlement Administration bought land from farmers who could not produce enough to earn a livelihood. In 1940, the United States Forest

Service, as custodian of the lands, made an agreement with the Wisconsin Conservation Department to manage the area for forestry and wildlife purposes. This area was named the Central Wisconsin Conservation Area. In the late 1930's, CCC crews planted trees and constructed earthen dams to establish flowages for waterfowl. Until 1957, several divisions of the Conservation Department managed this area. In 1957, the lands were granted to the State of Wisconsin by the federal government. The area was then designated the Black River State Forest. The boundaries were expanded and established by the Conservation Commission in October, 1957. There presently are over 65,000 acres in state ownership. In 1977, two devastating forest fires burned over 20,000 acres in eastern Jackson County, including 4,000 on the state forest.

2. Current Management

Chapter 28.02 of state statutes defines state forest lands and refers to an act of Congress granting lands to the State of Wisconsin for forestry purposes. Management of this state forest is mandated in the Wisconsin Statutes, Chapter 28.04. This mandate states that the primary use is silviculture and the growing of recurring forest crops, but recognizes and permits multiple use such as outdoor recreation and public hunting.

Forest Management

The objectives of the forest management program are to:

a. Provide a sustained yield flow of forest products to the economy.

b. Increase the quantity and quality of timber produced.

c. Provide and maintain a timber recreation base which compliments other uses including recreation, fish and wildlife management activities.

All of these objectives are considered each time a forestry activity is planned and undertaken.

Forest management activities are determined and scheduled for implementation through a management system called Compartment Reconnaissance. Compartment Reconnaissance consists of inventorying individual stands of timber and prescribing management activities to be undertaken within those stands. Detailed information on this procedure can be found in the "Forest Compartment Reconnaissance Handbook #2412".

The information gathered during the Compartment Reconnaissance procedure is computerized to assist the forest manager with future implementation of the various forestry activities. A computer schedule is used to determine where each year's activities will take place. These activities include timber sales, reforestation, and several types of timber stand improvement practices.

To accomplish a sustained flow of forest products and reduce the annual fluctuations in workload, the property manager strives to achieve "regulation" of the numerous timber types on the forest. When the timber types are "regulated", there is an equal acreage in each age class. For example, if a property had 45,000 acres of aspen, the regulated goal to be attained through scheduled timber sales might be 1,000 acres of one-year old aspen trees, 1,000 acres of two-year old trees, and so forth, until all the aspen acreage on the forest is distributed equally in each year class from one to forty-five years of age.

A fully regulated forest also compliments aesthetics and wildlife objectives by providing a variety of timber types and age classes. At present, age classes on the forest are quite unregulated due to timber regeneration directly related to the past logging activities and wild fires. The Compartment Reconnaissance computerization is very helpful in achieving regulation of the timber type age classes.

Management Application

Aesthetic Management - Aesthetic management practices are guided by the Silvicultural and Forest Aesthetic Handbook #2431.5 and Natural Resources Board Policy 1.24.

Aesthetic management is applied to all areas of the forest in varying degrees of intensity depending upon the aesthetic zone involved. There are three aesthetic zones within the forest identified as the A, B, and C zones.

The A Zone consists of those areas immediately adjacent to all flowages and streams and roads receiving heavy use by the public. Zone B includes those areas related to roads receiving less public use than in Zone A. Zone C includes the remainder of the forest not included in either Zone A or B.

Aesthetic management in Zone A is the most intensive and consists of only selective or salvage cutting to prevent degradation of the timber and scenic beauty adjacent to these high use areas. Management in Zone B is similar to Zone A but of less intensity. Aesthetic management

techniques are also applied in the C Zone, as opportunities allow. The primary objective in the C Zone is timber production; however NR 1.24 requires the inclusion of aesthetic objectives in all forestry practices. In all zones, the type of aesthetic practice applied varies with the opportunity available based on the biological and physical conditions present on the site.

"Big tree silviculture" is also an aesthetic management technique.

The Governor's Committee to Review Timber Management Policies on State-Owned Lands, March 1974, recommended that "Big Tree Silviculture" should govern the management of state forests in recognition of the recreational and aesthetic values of old growth and large trees. "Big Tree silviculture" governs the following timber types regardless of the zone in which the type falls:

White Pine

Red Pine

Quality Oak

Bottomland Hardwoods

In addition, individual trees or clumps of Red or White pine are treated similarly to the types listed above, where they occur in other timber types. In applying "Big Tree silviculture", the rotation age normally used to achieve maximum timber production is no longer applied. The rotation is extended to approach biological maturity which occurs at an older age. Biological maturity is reached when the individual tree starts to decline and subsequently falls victim to insects and disease due to natural causes. Specific rotational ages cannot be listed for the "Big Tree silvicultural" types because biological maturity occurs at different ages on the various sites. All of the preceding aesthetic management practices and application zones must be kept in mind when discussing timber harvests.

Timber Harvests - The timber management program on the forest consists of either all-aged or even-aged management of the various types depending upon the biological need of the species.

All-aged management means that a stand of trees will include individual trees of mixed ages from seedling to mature. It applies primarily to the bottomland hardwood timber type and

consists of selectively removing individual trees from each stand, periodically, to provide sunlight for seedling establishment. The hardwood timber type can then be perpetuated indefinitely by removing larger trees for harvest and promoting the new growth of seedlings as replacement stock. A predetermined mixture of size classes is sought for optimum sawtimber production and stand replenishment. Research indicates the desired combination should by 76% sawtimber, 17% poletimber, and 7% seedlings and saplings.

Even-aged management means that all trees in a stand are approximately the same age. It is used to perpetuate timber types that need complete sunlight to reproduce and maintain vigor. Intermediate thinnings are applied, through selection cutting, to the even-aged timber types to remove surplus trees which would otherwise be lost through natural suppression. When regeneration of the even-aged timber types is desired, the type of cutting practice applied is varied to stimulate the desired results. These harvest cuts can include the shelterwood method (removal of overstory trees in a series of cuts to stimulate and control new tree growth), group selection (removal of clumps of trees to obtain regeneration), seed tree method (leaving scattered seed trees for source of natural seeding), strip cut (clear-cut of timber in strips allowing natural seeding from adjacent trees), or clear-cutting (removal of all competing trees to stimulate root and stump sprouts, natural seeding or facilitate planting). Even-aged management is normally applied to all of the forest's timber types except bottomland hardwoods.

The annual timber harvest for the last five years has averaged 7,500 cords with an average annual income of $77,600. Tree planting has averaged approximately 200 acres annually the last five years; 738 acres were planted or seeded in the burn area resulting from the 1977 forest fires.

The entire state forest lies within the Black River Falls intensive fire control area. Fire protection is provided by ranger stations located at Pray, Black River Falls, and Tomah.

The forest insect and disease program is made up of three segments: detection, prevention, and suppression. Detection is accomplished by systematic and scheduled surveys conducted by the District entomologist and continuous awareness and observations by forestry staff members during the course of their normal work. Prevention is accomplished by silvicultural practices which encourage growth of strong, vigorous trees that have a higher resistance than defective or decadent trees. Pine bark beetle problems are prevented by restricting the seasons of Jack and Red pine cutting and decking. White pine blister rust can be controlled by removal of its

alternate host, currant and gooseberry, and by pruning. Suppression of insect pests occurs when larval counts exceed acceptable limits. When chemical control of an insect pest is necessary, only those chemicals listed under a general use label and approved by EPA will be applied. The Department's policy on pesticide use (M.C. 4230.3) directs, among other things, that mechanical methods and physical manipulation of habitat should be used wherever feasible for pest control.

Recreation

Recreation is an important and popular use on the Black River State Forest. Attendance in 1981 totaled 21,000 camper days and 283,000 visitor days, generating an income of $31,000. Recreation opportunities are greatly diversified ranging from hunting, cross-country skiing and backpacking to intensively developed recreational areas located at Castle Mound, East Fork, Pigeon Creek, and Robinson Beach. Hunting, one of the most popular uses, accounted for approximately 54,000 hunter participant days in 1981. A list of recreational facilities is in the brochure, Appendix IV.

Wildlife Management

An active wildlife management program is also carried out on the state forest. This is accomplished through the integration of forestry with wildlife management objectives and intensive management of the 3,700-acre Dike 17 Wildlife Area (Appendix III).

B. RESOURCE CAPABILITIES AND INVENTORY

1. Soils, Geology and Hydrology

Pre-Cambrian granite underlies all of Jackson County and is exposed along the Black River, especially in the area from Black River Falls upstream and in the vicinity of City Point on the East Fork of the Black River. Upper Cambrian sandstone overlies the granite and, in the eastern part of the county, there is the sandy alluvial formation, a relatively low area in which wetland and swamps are located.

Following the Cambrian period, portions of Central Wisconsin experienced four separate glacial stages. It is generally accepted, however, that the area within the state forest escaped glaciation. Eastern Jackson County lies on the western edge of old glacial Lake Wisconsin which covered much of the Central Plain. The meltwaters which formed glacial Lake Wisconsin also

accounts for much of the topography, drainage patterns, and soil types found in the Black River State Forest. The east fork of the Black River and the Black River were drainage outlets for glacial Lake Wisconsin, which result in broad banks and terraces.

The sum total of the glacial processes have resulted in the present topography of a relatively flat, sandy, alluvial plain with occasional sandstone buttes and interspersed low, marshy areas. The rolling sandstone uplands with elevations of up to 1,200 feet lend themselves to hiking and cross-country ski trail development.

Boone fine sands and Plainfield sands cover the greatest amount of upland on the state forest. These soils are well-drained, very droughty, and easily eroded. In addition, these soils are rather low in fertility and generally acid. The above factors must be taken into consideration when planning game trails, crop fields on wildlife refuges, and the development of trails on steep slopes.

The low fertility of the sandy soils also limits the growth of certain tree species on the state forest. In the past, these soils supported vast stands of Norway (red) and white pine until they were logged off in the late 1800's. Hardwood species such as aspen and oak do not grow well on the sandy soils and are now giving way to white pine through natural succession. The poor quality of the oak and aspen preclude managing these species for long-term timber production, except for limited acreages.

Marshes on the Black River State Forest contain peat soils which consist mainly of decaying vegetable matter in various stages of decomposition. These soils generally sustain a growth of sphagnum moss which is sold commercially on the state forest. An industry dependent upon sphagnum moss is located in Millston, a small village located within the boundaries of the forest.

In section 15 of Brockway Township, there is an active open pit mine. Jackson County Iron Company, a subsidiary of Inland Steel has been mining taconite, a low grade iron ore at this site since around 1970. Other mineral deposits of value are believed to exist in eastern Jackson County. In 1980, two exploration drill holes were completed on private in-holdings within the forest boundaries. In 1982, three more "in-holding" drill holes were completed as well as three others just northwest of the forest boundary near Hatfield. There are also areas within the forest that have more recently been the object of a prospecting application.

Prospecting and mining on the state forest are governed by Wisconsin Statutes, Sections 24.39(1), 26.08(1), 28.04, 144.81(18), 131.03(23), and 132.03(25).

2. Fish and Wildlife

The Black River State Forest has a wide variety of wildlife. Primary species susceptible to management include the white-tailed deer and ruffed grouse. White-tailed deer populations have been relatively stable and both species generally benefit from forest management practices. Waterfowl species such as Canada geese, mallards, teal and wood ducks are intensively managed on the Dike 17 waterfowl area. Other important species of wildlife inhabiting Dike 17 include sharp-tail grouse and sandhill cranes. Endangered species found in the state forest are the bald eagle and massasauga rattlesnake. In 1978, two male Kirtland's warblers were found on the Black River State Forest. Surveys in 1979 provided no sightings, but one singing male was heard. In 1980, one male was seen and heard. In 1981 and 1982, none were seen or heard.

Flowages and streams in the Black River State Forest contain gamefish species such as muskellunge, northern pike, largemouth bass, smallmouth bass, walleye, panfish, bullheads, catfish, yellow perch, and brook, brown, and rainbow trout. There is very limited natural reproduction of trout in the few streams classified as trout water and anglers are dependent primarily on stocked, hatchery-reared trout. Winterkill is a problem on many of the more shallow flowages which often restricts gamefish populations.

Further information on fish and wildlife is provided in Appendix III, the Dike 17 Area Plan.

3. Vegetative Cover

Jack pine and oak are the main forest types making up approximately 33 and 21% of the total area respectively. White pine, which is self-seeding and converting the hardwood areas, is the next largest forest type. Aspen makes up approximately 8% of the total forest area and is gradually converting to white pine also. Red pine, mainly plantations, makes up approximately 9% of the total forest type. Non-forest types, mostly of lowland brush and marsh, make up 17% of the total forest area. Other plants on the forest include typical communities of those found on dry, sandy soils. Common shrubs are cherry, hazelnut, sweet fern, blackberry, blueberry, wintergreen, viburnum and raspberry.

The great majority of sites are good to excellent for the growing of pine on the Black River State Forest. The potential for Jack pine is pulpwood and the potential for red and white pine is sawtimber.

Site quality for oak and aspen is generally poor with pulpwood being the highest value product expected. On many oak stands, fuelwood is the maximum product attained.

TABLE 1. Summary of Cover Types

	Acres
White Pine	4,156
Red Pine	5,701
Jack Pine	21,800
Oak	13,840
Aspen	5,260
Bottomland Hardwoods	809
Swamp Hardwoods	1,839
Tamarack	628
Black Spruce	263
Upland Grass	102
Upland Brush	231
Lowland Brush	2,450
Non-forest	8,188
	65,267

TABLE 2. Annual Allowable Cut by Type

	Acres
White Pine	32
Red Pine	44
Jack Pine	482
Oak	230
Aspen	142
Spruce-Tamarack	10
Swamp Hardwoods	20
Bottomland Hardwoods	9
	969

A forest "type" does not imply that the species indicated is the only tree species within that type. For example, an Aspen "type" may be pure aspen, or it may contain up to 48% hardwoods or pine. More detailed information on each stand and species composition is found in the Compartment Reconnaissance Printout in the forester's office.

Very little is known about endangered or threatened plants in the forest because no systematic survey has been conducted. If state forest personnel suspect the existence of endangered or threatened plant species within a proposed development area, the district endangered species coordinator will be contacted and appropriate protection measures taken, pending a definitive conclusion.

4. Water Resources

The Black River is the major waterway and borders the forest property on about eight miles of shoreline. It is a soft water stream with light brown, alkaline water of low transparency. Other significant streams include the East Fork of the Black River, Halls Creek, Hay Creek, Morrison Creek, Pigeon Creek, Robinson Creek and Perry Creek. The water of these creeks is brown, soft, and slightly alkaline. None of the above are classified as Class I trout waters. Clear Creek, Indian (Valentine) Creek, Creek 18-10, and Beltz Creek are small creeks within the state forest boundaries designated as Class I brook trout streams.

Three seepage lakes and 16 seepage and stream impoundments are located in the Black River State Forest. Because many of these flowages are subject to annual or frequent winterkills and are drawndown in summer to be planted with waterfowl food, they do not lend themselves to fish management. Battle Point, Whitetail, Townline, Teal, and Rangeline flowages, however, provide a limited fishery for largemouth bass, northern pike, and panfish species. Oxbow ponds, two impoundments constructed in 1967, have been managed as "put and take" trout waters. The ponds are stocked on an annual basis with brook and rainbow trout.

C. LAND USE POTENTIAL

It is proposed to zone the forest into eleven land-use classifications. Five of these are categorized as "resource protection areas", four as "resource development areas", one as "intensive recreation area", and one "administrative". Following is a list of classifications used and acreages of each:

TABLE 3.

Resource Protection	Gross Acres	State-owned Acres
Wild Areas	1,853	1,753
Public Use Natural Areas	255	255
Scientific Areas	400	400
Historical and Archaeological	--	--
Scenic Areas	1,130	1,130
Sub-Total	3,638	3,538

Resource Development	Gross Acres	State-owned Acres
Demonstration or Experimental	160	160
Fisheries & Wildlife Management	3,700	3,700
Forest Production	64,089	57,613.84
Propagation and Nursery	40	40
Sub-Total	67,989	61,513.84
Intensive Recreation	162	162
Administrative	15	15
GRAND TOTAL	71,804	65,228.84

A complete list of Resource Protection areas and locations is in Appendix I.

Management guidelines and criteria for each land use classification are generally in conformance with the Master Planning Handbook (2105.1), with additions and exceptions noted. These land-use classifications apply only to state-owned or controlled lands. Private lands are not affected.

I. Resource Protection Areas

Wild Areas - These are areas with many characteristics similar to Wilderness Areas, including the predominance of natural forces or restoration possibilities. They are, however, subject to some management practices not permitted in Wilderness Areas.

Management guidelines for Wild Areas are as follows:

- Forest management is permitted under restrictions designed to retain a "natural" or wild quality.

- The full list of these restrictions are in Manual Code 1031.2.

- No motorized vehicles are permitted except for logging and necessary restoration and maintenance.

- No new utility easements shall be permitted.

- Mineral exploration shall be subject to Board approval.

- Extensive recreational activities are permitted.

Exceptions to these guidelines are listed for each Wild Area. Two areas were selected, encompassing 1,853 acres. 1,773 acres are in Department ownership and subject to the restrictions discussed.

Hawk Island Wild Area

This island was selected because of its unique, isolated location even though fields have historically been share-cropped and the acreage is small (241). Share-cropping has been discontinued and thirty acres of field has been planted to pine. The canoe campsite will remain open and continue to be maintained.

Overmeyer Hills Wild Area

This area was selected because there are no interior public roads, it is extensively used for cross-country skiing and hiking, and it has some interesting terrain. It contains an historical church cemetery and an old farmstead with a root cellar and hand-dug well. These sites have been restored and will be maintained by forest personnel. They are also designated as Historical-Archaeological sites. There are 14 miles of cross-country ski trails, a 50-car parking lot, and picnic facilities within the area. Because of conflicts with cross-country skiing, hunting is restricted to September through December 1. It is 1,612 acres in size, with 1,512 acres in state ownership.

Public Use Natural Areas

Tracts of land or water where native biotic communities or other natural features, including significant geological or archaeological sites, persist. They should be of at least county or multi-county significance. They are relatively undisturbed ecosystems or sub-ecosystems that can be enjoyed by the public for general nature study, education and aesthetic appreciation, under certain restrictions, without threat of destruction.

Two Natural Areas are proposed, encompassing 255 acres.

- Vehicles are prohibited.

- Permitted future developments include only foot trails, interpretive signs, and other improvements designed to enhance nature study and nature appreciation.

- Forest, fish, and wildlife management are generally prohibited. Management designed to simulate natural forces which shaped the natural community is permitted. Salvage of timber following extensive natural disasters is at the discretion of the Natural Resources Board.

Ketchum Pines

A moist area containing 80-year old White pine with scattered oak. 80 acres.

Morrison Creek Pines

White pine, 70 to 80 years old, located along Morrison Creek. A corridor of 200 feet on either side of the creek is proposed. 175 acres.

aaff

CORRESPONDENCE/MEMORANDUM — STATE OF WISCONSIN

Date: September 9, 1983 File Ref: 2400

To: Jim Lissack - WCD

From: James R. Huntoon JRH

Subject: Black River State Forest - Wild Area Exemption for Timber Sales

This memo is to clarify my earlier memo dated August 16, 1983 concerning the Overmeyer Hills Wild Area.

Your request for an exception to item 4 in Manual Code 1031.2 for the existing and all future timber sales is approved.

Timber harvesting in this area should occur from May 1 through Dec. 1 to minimize any conflicts between logging and cross country skiing within the Overmeyer Hills Wild Area.

GLV:jn

cc: ~~M.~~ Reinke - FOR/4
J. Bugenhagen
A. Kubiske - FOR/4

Scientific Areas

Tracts of land or water containing the best remaining examples of native biotic communities or other natural features including significant geological or archaeological features. They are areas of at least statewide significance, especially suited to research.

Scientific areas are managed according to specific management plans for each site, prepared by the Scientific Areas staff. General guidelines for Scientific Areas are as follows:

- Maintain natural conditions by allowing natural physical and biological processes to operate with a minimum of human intervention.

- Development is limited to the extent required to facilitate research and education and to prevent non-compatible uses such as snowmobiling and off-road vehicles.

- Specimen collecting is by permit only.

- Management designed to simulate natural forces which shaped the community is permitted, e.g., fire for prairie, barrens and savanna types.

The Castle Mound Scientific Area has been previously designated and approved by the Scientific Areas Preservation Council. It is an 80-acre tract. It is described as a moist, White pine forest on a northeast-facing slope and a dry, mesic White pine forest on a southwest-facing slope.

The Washburn Marsh Scientific Area is proposed. It is a sedge bog made up mainly of sphagnum moss and various sedges. The exterior edges of the marsh have a long history of mossing and are excluded. 250 acres

The Robinson Creek Pines Scientific Area is proposed. It is an 80-year old White pine stand along Robinson and Wyman Creeks. The 880-foot contour level on either side of the creeks designates the boundaries of the area. 70 acres.

Historical and Archaeological Areas

Areas containing buildings, sites, objects, and related features which possess high value or quality in illustrating or interpreting the historical or archaeological heritage of Wisconsin and the nation. The State Historical Society has provided information on the general locations of thirteen known prehistoric sites (Appendix I). In addition, the Winnebago Pow-wow grounds and an old farmstead and cemetery in the Overmeyer Hills Wild Area are historic sites. The Pow-wow Grounds are owned by the Winnebago Tribe.

The following actions will be taken concerning archaeological sites:

- The thirteen known archaeological sites on DNR land will be surveyed and evaluated prior to management activities.

- Areas to be developed for major recreational facilities would be surveyed for archaeological features prior to development. If significant sites are discovered, they would be protected from disturbance.

- If suspected sites are uncovered during any state forest activities, qualified specialists would be contacted to conduct surveys. If warranted, such sites would be given protection.

Scenic Areas

Scenic Areas are lands that have unique aesthetic qualities, beauty or distinctive landscapes. The intent is to protect and maintain these characteristics to the greatest extent possible for public enjoyment. Management of the timber resource is according to the Class A aesthetic zone in the Silvicultural and Aesthetics Handbook. That is, the primary objective of management is to maintain the aesthetic qualities of the area. Orderly removal of mature trees is recognized as essential to maintenance of a vigorous, healthy, and aesthetically-pleasing forest cover. Generally, timber types suitable for all-aged management are favored. A pleasing variety of vistas and cover types is encouraged.

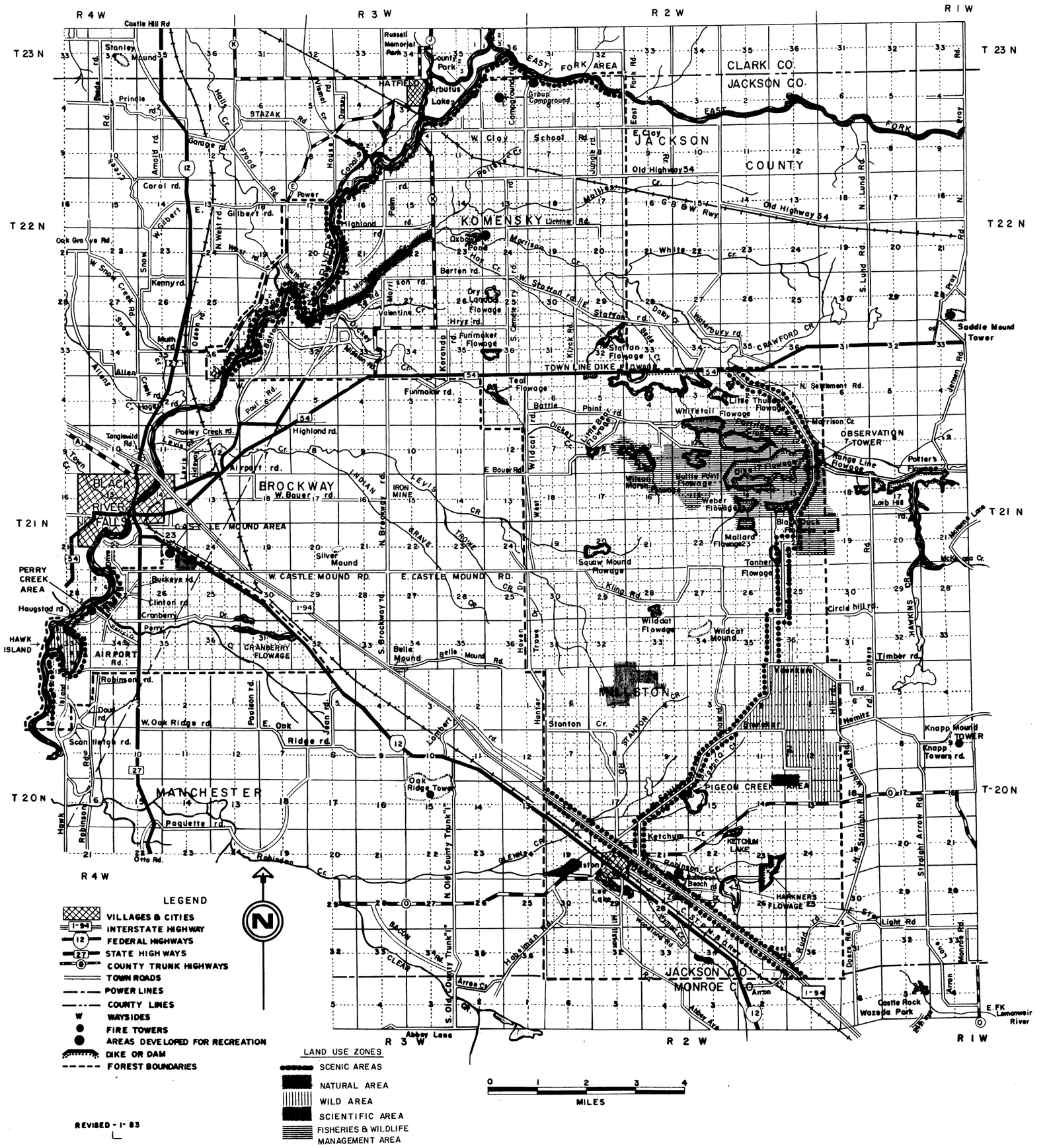
Proposed Scenic Areas on the Black River Forest consist of corridors along the Black River; the south shore of the East Fork; Interstate Highway "94"; and the North Settlement Road. 1,130 acres.

Along other waterways, flowages, and main roads, scenic attractiveness will be a major consideration in management, but will not be the only criteria. Timber management practices will be normal, but scenic attractiveness will be maintained.

BLACK RIVER STATE FOREST

Wisconsin Department of Natural Resources

January 1983



2. Resource Development Areas

Demonstration and/or Experimental Areas - Areas whose primary use is for research and the testing of new resource management methods and techniques. Other uses may be permitted when they do not conflict with the primary purpose of the area. Frequently, viewing by the public is an important purpose of these areas. Generally, barrow pits, public roads, and landfills are not permitted.

There are four areas on the forest totaling 160 acres (Appendix II).

Fisheries and Wildlife Management Areas - Lands and waters containing less than ideal natural conditions for the perpetuation and production of fish and wildlife, but can be developed for high production through artificial means.

The Dike 17 Wildlife Area is the only one designated. It has a separate master plan (Appendix III). It contains 3,700 acres.

Forest Production Areas - Those lands which can be best and most advantageously managed for the production of forest products consistent with sustained yield principles. These areas contain most of the commercial forest land and provide most of the opportunities for management of timber, moss, wildlife habitat, and extensive recreation. Total acreage is 57,613.84.

Class B aesthetic management zones within the forest production area have been identified and total 4,600 acres. These are primarily the roadsides and streambanks not identified in the Scenic Areas.

Most recreational trails are also in the Forest Production Area.

Propagation and Nursery Area - Areas dedicated to the genetic improvement of trees, normally characterized as seed orchards. 40 acres are planned for this use, although the areas have not yet been specifically identified.

3. Intensive Recreation Development Areas

Those quality areas adaptable to heavy recreational use and in locations where active and intensive recreation developments are needed.

- Intensive recreation is the dominant or primary management objective.

- Forest fire and pest control are carried out as needed.

- Mineral extraction is not permitted.

- Hunting is not permitted because of the potential safety hazard.

The following developed recreational use areas are in this classification (Appendix IV):

- Three family campgrounds with 101 units
- One group campground
- Two beaches
- One fishing pond
- One highway wayside
- Seven areas with picnic facilities

4. Administrative Areas

These are offices, headquarters, shops, and dormitories.

The Black River Correctional Camp is in this category. It is leased and operated by the Division of Corrections. The shop, office and residence at Castle Mound is the other Administrative Area. The Black River Area Headquarters of the DNR is also an Administrative Area, but is not within the State Forest. Total acreage of Administrative Areas within the state forest is 15.

D. MANAGEMENT PROBLEMS

1. Acquisition - Approximately 91% of the potential land within the established forest boundary has been purchased. The remaining 9% is difficult to acquire because of the following:

a. Much of the remaining private in-holdings have high value improvements.

b. Larger parcels are being privately subdivided.

c. The remaining owners are, by and large, those who do not wish to sell.

2. Pine release - extensive acreages of white, red and jack pine exist as an understory in low quality oak stands. Release needs of approximately 200 acres per year have been identified to insure maximum timber production of high demand pine species. At the present time, release is mechanical and dependent upon prison camp labor. Future budget and travel restrictions because of energy costs could hinder the program. Chemical herbicides approved by regulating agencies will be considered for pine release as an alternative to mechanical release.

3. Unauthorized Activities - Portions of hiking trails, snowmobile trails and game trails are gated and locked to restrict vehicular traffic and prevent high maintenance costs. An ongoing problem is the destruction of locks and gates requiring expensive lock replacement and repairs to gates and trails. Other unauthorized activities include offsite camping and indiscriminate travel by trail bikes.

4. Surface Water Management Limitations - The fisheries management potential of the Black River State Forest is generally limited by the acidic, darkly stained, infertile waters. Most of the flowages experience at least periodic winterkills.

E. RECREATION NEEDS AND JUSTIFICATIONS

Recreational needs for Jackson County were compiled from the 1977 State Outdoor Recreation Plan (SCORP), Jackson County Outdoor Recreation Plan of 1978, Recreational Trails Analysis by the Mississippi River Regional Planning Commission in 1974 and user attendance figures for the Black River State Forest. Information compiled is for Region 12 which includes Jackson, Trempealeau, and Buffalo Counties. The recreational need summary covers the 10 most frequently participated in activities. It indicates need which may or may not be met by providing facilities on the Black River State Forest.

1. Camping

   a. Developed Camping - Based on recreational supply and demand data within the region, county and state forest developed campsites are of sufficient number to meet present and future needs. Specific area needs such as at Pigeon Creek which has 87 percent occupancy may be met by enlarging or supplementing existing facilities by the creation of additional sites nearby. Castle Mound and East Fork have 26 and 36 percent occupancy, respectively, during the summer use season, and therefore, need no expansion.

   b. Primitive Camping - There is a need for 27 additional sites in Region 12 by 1985. The forest could provide some of this need by developing sites in the future.

2. Picnicking

The 1977 SCORP and 1978 Jackson County Recreation Plans indicate a need for additional picnic areas and facilities. Based on forest use figures, existing recreation areas could accommodate increased user numbers by providing additional tables, grills and support facilities. No new picnic areas are suggested at this time.

3. Hiking

Presently, there are 49.6 miles of hiking trails in Region 12 according to the 1977 SCORP. A need for an unspecified number of miles of trails is called for in the 1978 Jackson County Recreation Plan. The state recreation plan is more specific indicating 52 miles of trail are needed by 1995. Newly constructed cross-country ski trails on the state forest provides an additional twelve miles of trail for hiking. Primitive camping can also be provided in conjunction with this development.

4. Snowmobiling

The state, regional and county recreation plans show a need for additional trails. However, use on the forest is stabilized and may, in fact, be decreasing based on forest-use figures. Therefore, other than working with the county forest and possibly local snowmobile clubs to provide connector links for these trails, no new trails appear to be needed on the forest.

5. Skiing

The state and county recreation plans do not indicate a specific need for cross-country ski trails. However, user-demand figures generated on the forest indicate a need for additional miles of trails. The 12 miles of added trail serve to meet expressed needs and complement the existing 14 miles of trail near Millston.

6. Off-Road Motorcyle Use

Jackson County proposes to meet need by developing from one to three sites. Development beyond the first site would be dependent on information gathered once the initial site was operational. Locally generated need data will be needed to determine if the state forest should maintain the existing trail, expand it or phase it out. No need figures were contained in the 1977 SCORP.

7. Swimming

The 1977 SCORP indicates no additional facilities needed through 1995 in Region 12. The Jackson County Recreation Plan indicates present facilities should be maintained and improved where possible. The plan also stated that overall, swimming features in Jackson County are deficient. Use figures on the forest show that Robinson Creek and Pigeon Creek are near maximum use on summer weekends.

8. Canoeing

A need is shown to exist in both the SCORP and Jackson County Recreation Plans. The forest presently provides four such access sites on the Black River and its tributaries.

F. ANALYSIS OF ALTERNATIVES

1. Manage for wood production as the only objective.

a. Management solely for timber for fiber production would preclude recreation management and would not provide for resource protection areas.

2. Manage for aesthetics and recreation as primary objectives.

a. Management solely for aesthetics and recreation would require additional personnel and budget funding and would result in reduced timber production.

b. The current energy crisis necessitates timber management as a viable use in providing the world's and Wisconsin's need for fiber.

c. Management solely for aesthetics and recreation would have an adverse effect on wildlife habitat. Good wildlife habitat is dependent upon continuous timber harvesting.

3. Manage for wildlife as a primary objective.

a. Intensive wildlife management would adversely affect aesthetic and certain recreation values.

b. Intensive wildlife management would emphasize management of low value timber species such as oak and aspen.

c. Big tree silviculture of red and white pine recommended by the Governor's Task Force on timber management on state-owned lands would not be complied with.

d. Pine conversion would be discouraged.

4. Multiple Use Management

Manage the forest for a variety of resource values with sustained yield forest production as the primary goal. This accommodates various recreational activities and developments; wildlife practices; scenic beauty considerations; various land use areas where management is modified to emphasize values other than timber production.

This alternative is considered to be reasonable and sound. It is the one under which the State Forest has historically been managed.

APPENDIX I

Resource Protection Areas

A. Wild Areas

1. Hawk Island - T21N, R4W, Portions of Section 33. Acres: 241

2. Overmeyer Hills - T20N, R2W, Portions of Sections 1, 2, and 12. Acres: 1,532

B. Public Use Natural Areas

1. Ketchum Pines - T20N, R2W, Portions of Sections 11, 12, 13, and 14. Acres: 80

2. Morrison Creek Pines - West from County Highway "K" to the Black River; T22N, R3W, Portions of Sections 21, 22, 28, and 29. Acres: 175.

C. Scientific Areas

1. Castle Mound Pine Forest - T21N, R4W, Portions of Sections 23 and 24. Acres: 80

2. Washburn Marsh - T20N, R2W, Portions of Sections 4 and 5. T21N, R2W, Portions of Sections 32 and 33. Acres: 250

3. Robinson Creek Pines - T20N, R2W, Section 19. Acres: 70.

D. Historical and Archaeological Areas

1. A prehistoric campsite/workshop located in T20N, R2W, Section 30, S1/2.

2. A prehistoric cemetery located in T20N, R2W, Section 17, SW.

3. A prehistoric cemetary located in T20N, R2W, Section 18, SE1/4.

4. A group of burial mounds located in T21N, R4W, Section 26, SW.

5. A campsite located in T21N, R4W, Section 26, SWSW.

6. A campsite located in T21N, R4W, Section 27, SWSW.

7. A campsite located in T21N, R2W, Section 11.

8. A stone pipe findspot in T20N, R4W, Section 5, N1/2NE.

9. A campsite located in T22N, R2W, Section 6, NENW.

10. A copper artifact findspot in T22N, R2W, Section 30, NWSE.

11. A cemetary located in T22N, R3W, Section 10, SW1/4.

12. A "sacred spring" located in T22N, R3W, Section 23, S 1/2.

13. A cemetary located in T22N, R3W, Section 28, SWSW and Section 29, SESE.

Above information supplied by State Historical Society.

9. Historic farmstead and cemetery in T20N, R2W, Sections 1 and 2.

10. Indian pow-wow grounds in T22N, R3W, Section 34 owned by the Winnebago Indian Tribe.

E. Scenic Areas

1. Upper Black River - 5 miles, T22N, R4W, Portions of Section 36; T22N, R3W, Portions of Sections 16, 17, 20, 29, 30, and 31.

2. Lower Black River - 4.25 miles, T21N, R4W, Portions of Sections 27, 28, 33; T20N, R4W, Portions of Section 5.

3. East Fork of the Black River - T22N, R2W, Portions of Section 6.

4. Interstate 94 - All segments passing through forest boundary; T20N, R2W, Portions of Sections 18, 20, 21, 27, 28, 34, and 35.

5. North Settlement Road - Entire segment from County Highway "O" to State Highway "54". T20N, R2W, Portions of Sections 1, 2, 10, 16, 20, and 21. T21N, R2W, Portions of Sections 1, 2, 12, 13, 24, 25, 35, and 36.

APPENDIX II

Demonstration and/or Experimental Areas

1. U. S. Forest Space Study Plots: T22N, R3W, Portions of Section 34.

2. Institute of Paper Chemistry: T21N, R2W, Portions of Section 36.

3. White Pine Tip Weevil Plots: T20N, R2W, Portions of Sections 11 and 14.

4. Hybrid Poplar Plots: T21N, R4W, Portions of Section 35.

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APPENDIX III

February 1983

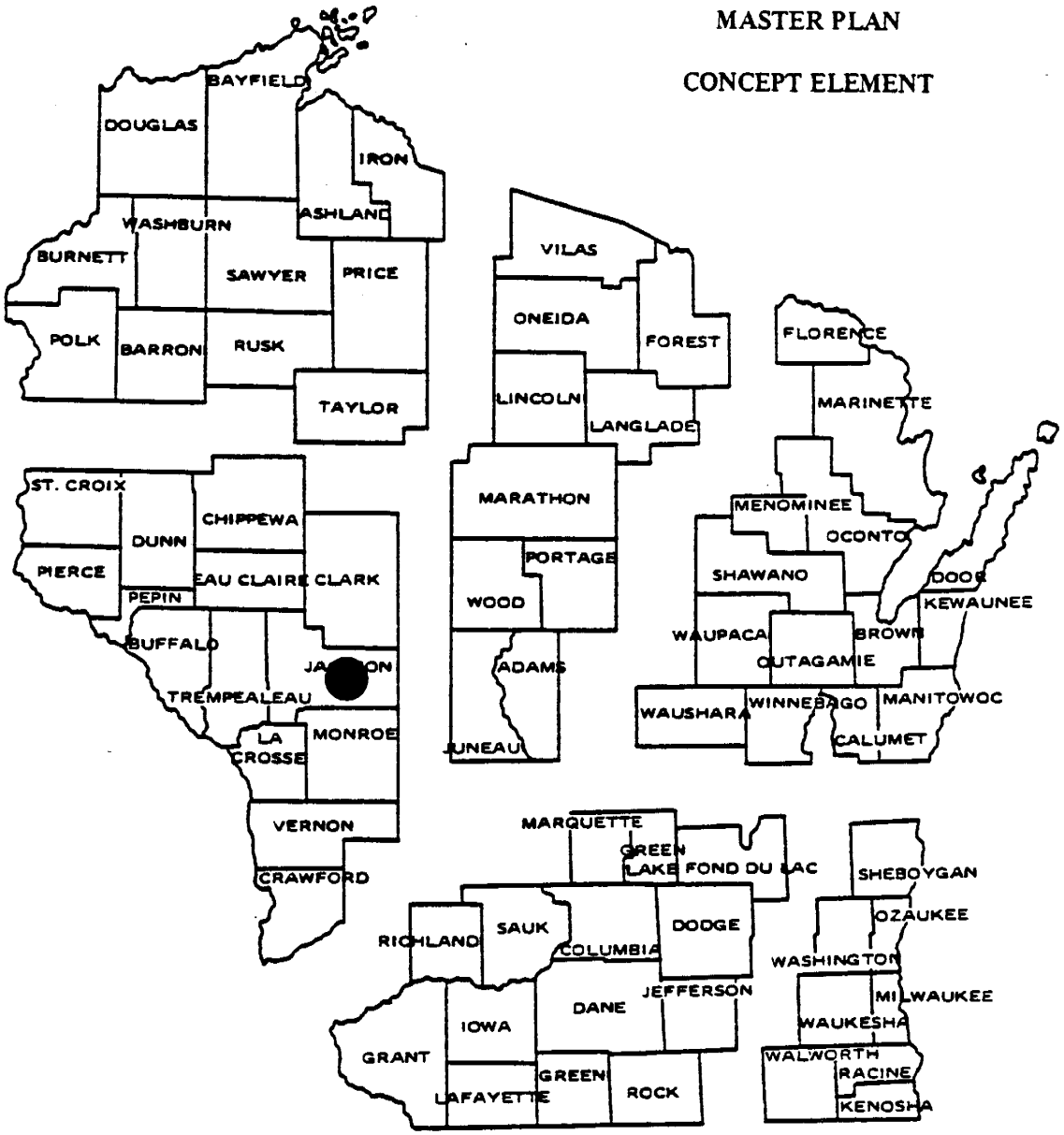
DIKE SEVENTEEN
WILDLIFE AREA

MASTER PLAN
CONCEPT ELEMENT

TABLE OF CONTENTS

MASTER PLAN

CONCEPT ELEMENT



Property Task Force

Approved By: _____

Date: _____

Leader: Eugene M. Kohlmeyer, Project Manager
Edward F. Vlach, BRSF Superintendent
James G. Talley, Area Fish Manager
David J. Zeug, Conservation Warden

Special Assistance - Joel D. Bolin, Student Intern

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MADISON, WISCONSIN

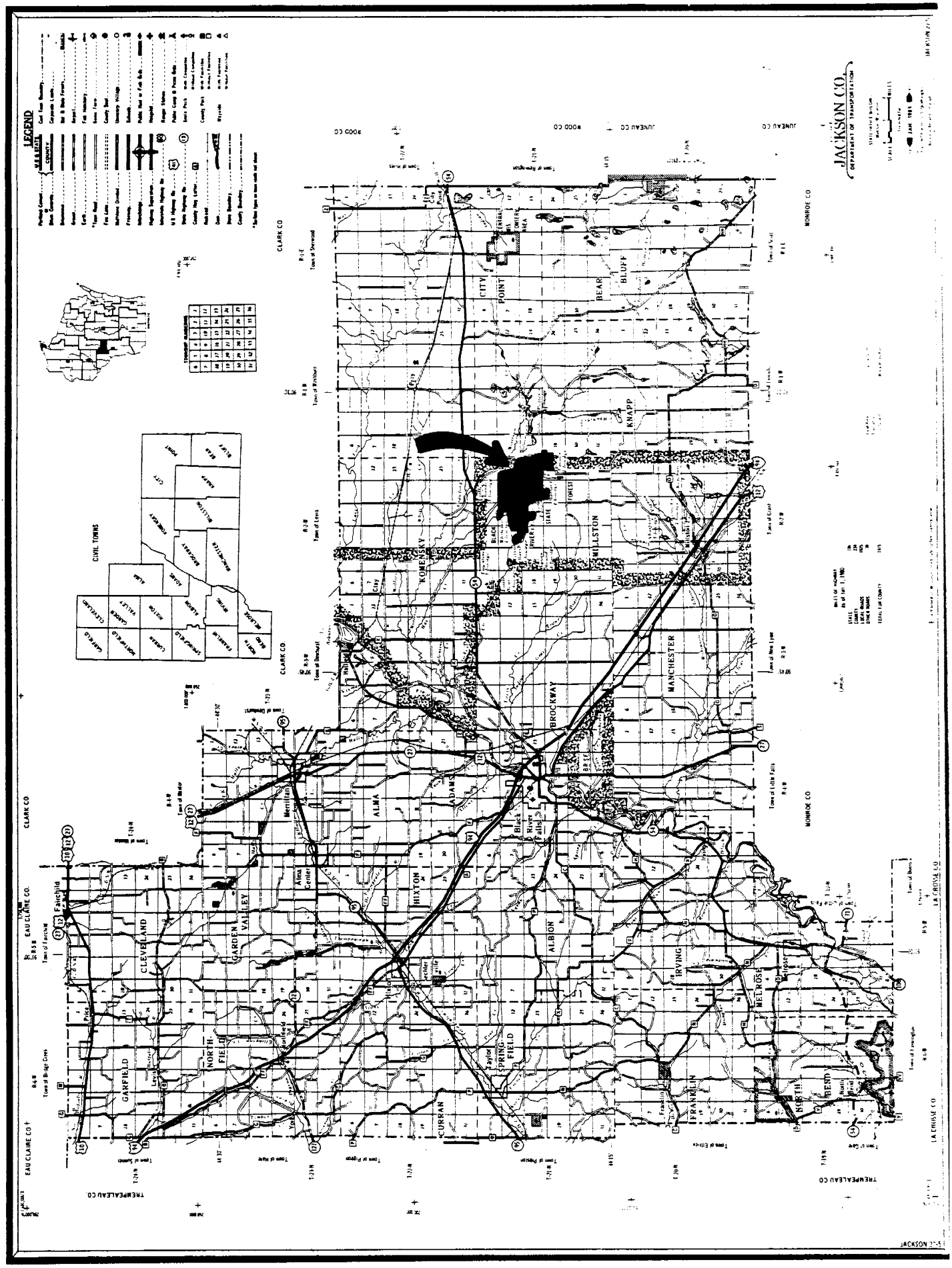


FIGURE 1 LOCATOR

SECTION I - ACTIONS

GOALS, OBJECTIVES AND ADDITIONAL BENEFITS

Goal

To manage the Dike 17 unit of the Black River State Forest for wildlife related recreation with primary emphasis on waterfowl hunting while providing habitat for sharp-tailed grouse production.

Annual Objectives

1. Maintain an average peak fall population of 2,500 geese and 2,000 ducks.

2. Provide opportunities for 2,000 participant days of waterfowl hunting on 580 acres of permanent water within the 1,520 acre open hunting area.

3. Maintain habitat for an average fall population of 75 sharp-tailed grouse.

Annual Additional Benefits

1. Produce 60 goslings and 125 ducklings annually.

2. Accommodate 2,500 participant days of wildlife observation.

3. Provide opportunities for 300 participant days of trapping.

4. Provide opportunities for 800 participant days of deer hunting (bow and gun).

5. Accommodate 700 angling days of fishing.

6. Accommodate 1,500 participant days of snowmobiling on a designated trail.

7. Contribute to the habitat of endangered or threatened species of fish, wildlife and plants. Specific objectives for such species may be created in the future as may be identified by the Comprehensive Fish and Wildlife Planning System.

RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

Intensive waterfowl management is proposed for the Dike 17 Wildlife Area (Figure 2). No significant changes to existing management are proposed except for upgrading of certain drop inlet structures and dikes and erection of an informational sign. Ongoing activities to maximize indigenous wildlife use within the boundary include: farming, mowing and burning, dike and flowage maintenance and placement and maintenance of nesting boxes. Other activities include property maintenance (posting, parking lots, observation towers) and wildlife surveys.

A designated snowmobile trail has been established that generally follows the north refuge line (Figure 2). Snowmobile use on the property is restricted to this trail.

Increased fish management activity is not proposed because improving water quality or preventing winterkill in the shallow flowages is cost prohibitive and would disrupt current operations.

The 400 acres of forest cover within the boundary is managed by state forest personnel along with the timber on the balance of the forest (Figure 3).

Approximately 2,100 acres of the property is wildlife refuge (Figure 4) and public entry is prohibited from October 1 through November 30 except during the deer gun season. On other dates, the Department has conducted limited educational tours and this is proposed to continue.

The 3,700 acre wildlife area is of adequate size to permit effective management. No expansion or reduction of ownership is planned (Figure 2).

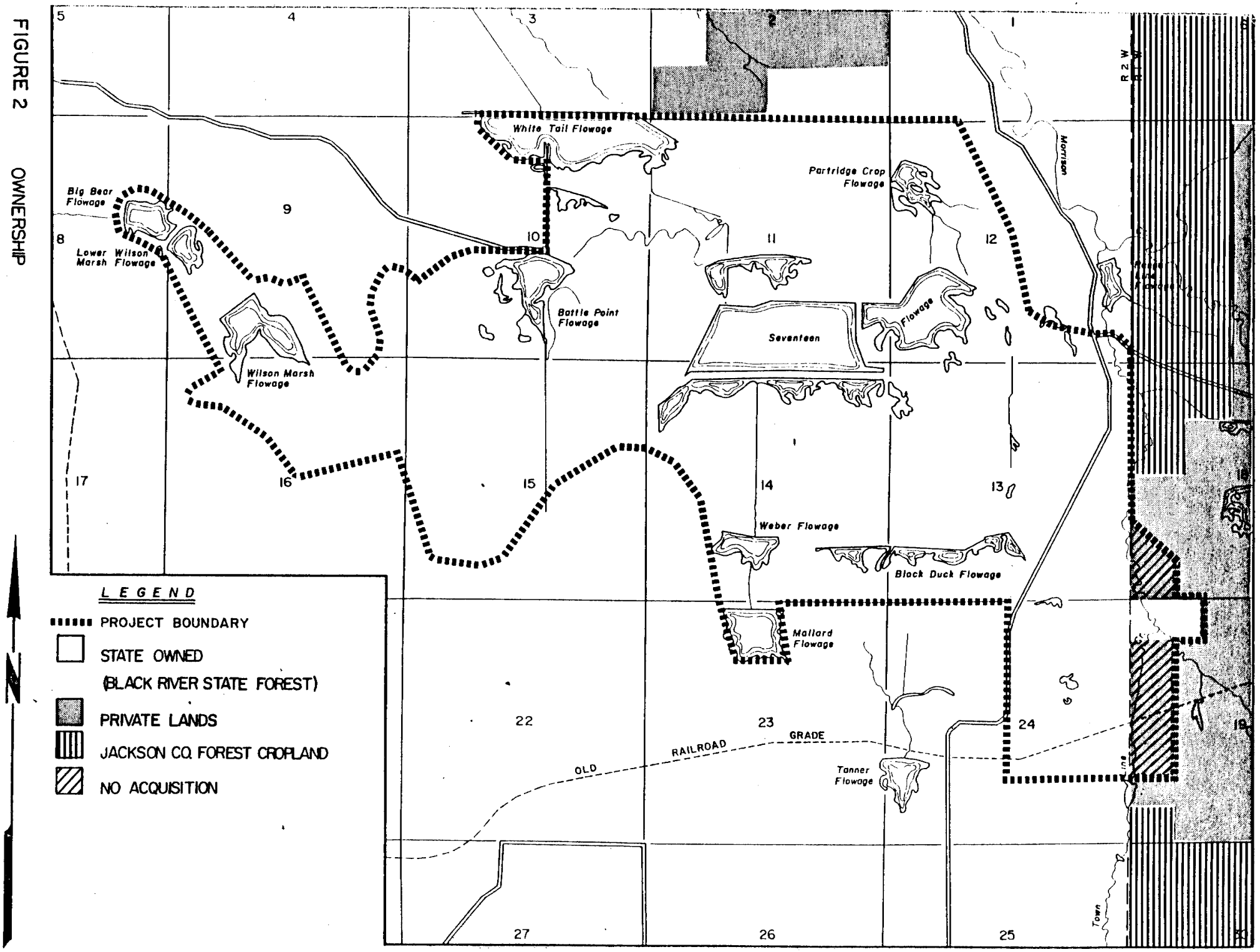
Major development planned for the property includes drop inlet repair/replacement and dike renovation scheduled for 1981-83 using waterfowl stamp monies. A large sign depicting wildlife species present and their management is also proposed.

Estimated cost for management include:

1. Drop inlet (16) repair/replacement and dike renovation (10 miles)-$40,000.

2. All management (crops, maintenance, surveys, salaries, etc.)-$17,000 annually.

FIGURE 2 OWNERSHIP



DIKE 17 WILDLIFE AREA

FIGURE 3 EXISTING AND PROPOSED DEVELOPMENTS

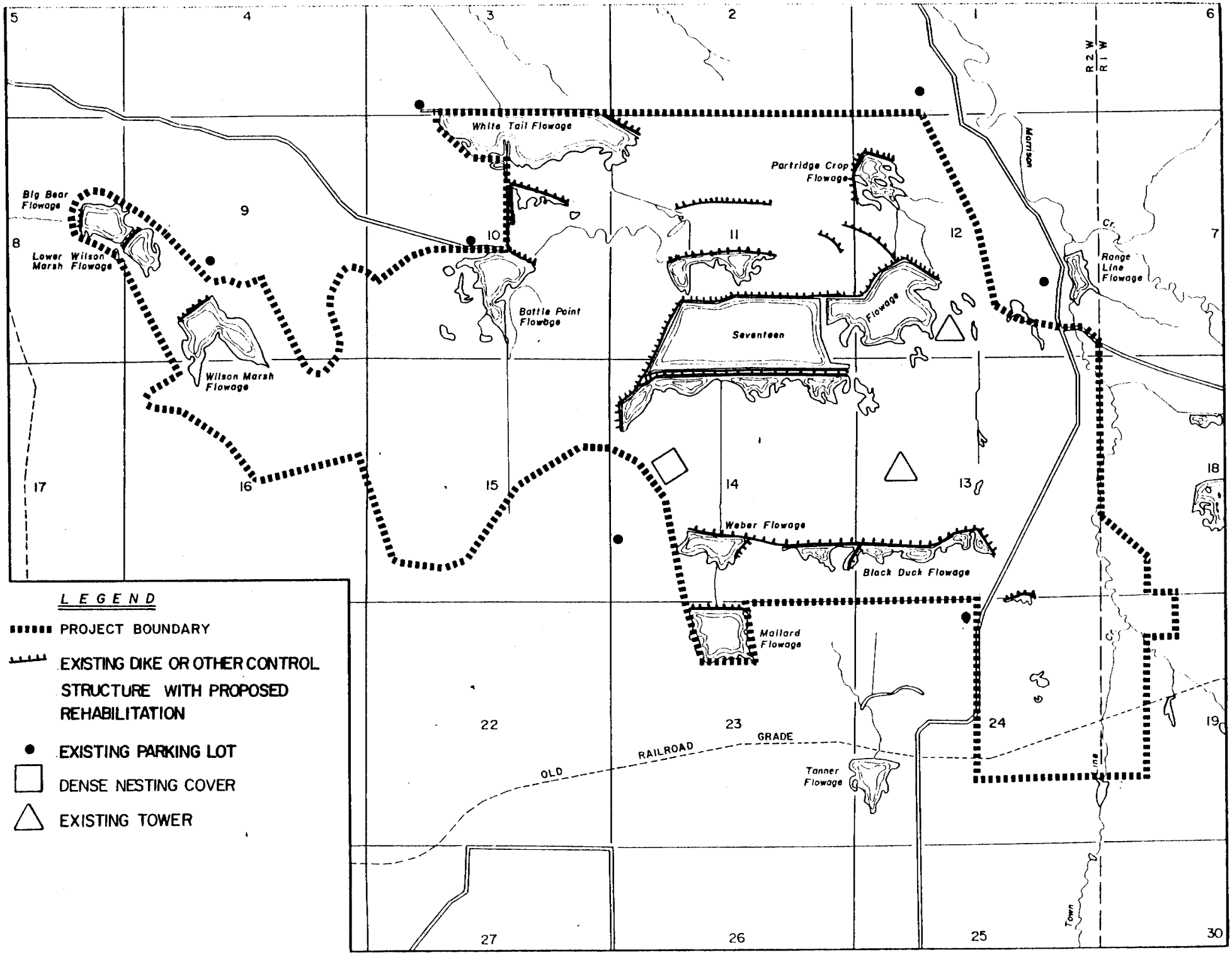
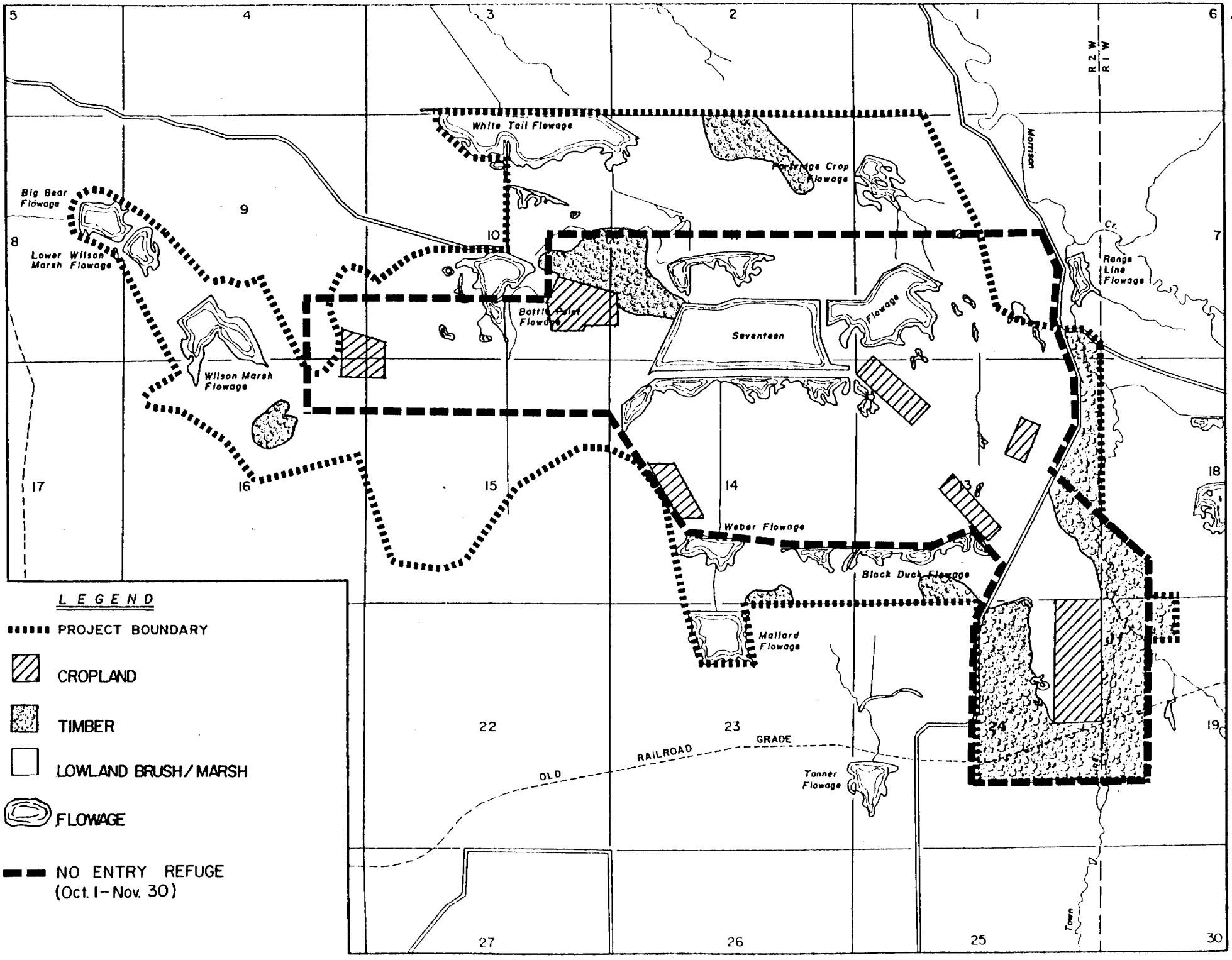


FIGURE 4 VEGETATION



SECTION II SUPPORT DATA

BACKGROUND INFORMATION

Physical Setting

The Dike 17 Wildlife Area is part of the 65,000 acre Black River State Forest located in Eastern Jackson County. It is 15 road miles east of Black River Falls and 8 road miles north-northeast of Millston and located within Millston Township 21 North, Range 2 West.

The property consists of a marshy lowland with numerous flowages, ponds and ditches surrounded by and interspersed with deciduous and coniferous forests. The 3,700 acre area contains 2,400 acres of lowland and upland brush, grass and marsh, 700 acres of water, 400 acres of forest and 200 acres of cropland, all of which is within the state forest except for 80 leased acres from the Morrison Creek Cranberry Company and 20 acres owned by the Nekoosa Paper Company.

The acquisition goal is complete and no additional acreage is being considered for purchase or removal. A history of property creation is contained within the background information section of the Black River State Forest master plan.

Management Activities

The property has been managed as a waterfowl hunting area, primarily for geese. Farming (200 acres) to provide an attactant food source of waterfowl and other wildlife, is one of the most expensive and visible activities. Crops raised include corn, millet, clover, oats, rye and buckwheat.

Other ongoing annual activities include dike and flowage maintenance, boundary posting (11 miles), mowing (110 acres) and burning (1,200 acres). Muskrat holes and washouts on dikes (18.5 miles) receive constant repair.

Flowage maintenance consists of removing/replacing stop logs in drop inlet structures (37) to control water levels. Selected flowages are drawndown in June, planted with millet (50 acres) and reflooded for use by fall migrating waterfowl. Mowing and burning are done to set back plant succession/encroachment and maintain open areas for use by waterfowl, sharp-tailed grouse, sandhill cranes and other open area and marsh wildlife species.

Roads leading to property dikes and the refuge are gated to prevent public vehicular access (except for designated trail snowmobiling). Gating helps minimize disturbance to wildlife, crops and dikes.

Past development has consisted of construction of loading ramps, fire breaks, parking lots and a visitor observation tower. Seventy-one wood duck nesting boxes were erected on the property periphery in 1979 and are maintained.

Survey work has included waterfowl banding, hunter bag checks, sharp-tailed grouse dancing ground checks and monitoring of wildlife populations during farming and maintenance activities.

Lack of quality natural food due to infertile soil appears to be the single most limiting factor in attracting nesting waterfowl to the general area. In association with this, poor water clarity reduces light penetration to flowage basins reducing growth of rooted aquatics.

Nesting cover, in the form of prairie grasses, appears adequate and is maintained by periodic controlled burns (EIA number 218A approved 4-16-74). Seventeen acres of switch grass has been planted with intent of future encroachment mixing with established grasses. However, in view of infertile soils, waterfowl production potential is limited, and efforts should continue to be expended more toward hunting rather than production.

RESOURCE CAPABILITIES AND INVENTORY

The following is supplemental to information contained within the same section of the Black River State Forest Master Plan.

Water Resources

The wildlife area contains 12 named flowages; Whitetail, Partridge Crop, Battle Point, Upper Seventeen, Lower Seventeen, Seventeen, Wilson Marsh, Lower Wilson Marsh, Big Bear, Weber, Black Duck and Mallard. These flowages, along with miscellaneous water areas, have a combined surface acreage of 700 acres.

Outlying named flowages managed for waterfowl are Staffon, Townline, Little Bear, Squaw Mound, Tanner, and Little Thunder. Combined named flowages and miscellaneous water areas on and immediately surrounding the wildlife area and located on the Black River State Forest total 1,000 surface acres. The flowages range in maximum depth from 3 to 8 1/2 feet.

All flowages contain either soft or very soft water and have low transparency with a color range from light to dark brown. Battle Point, Black Duck, Mallard, Tanner and Wilson Marsh are acidic, the rest are alkaline (Surface Water Resources of Jackson County, 1968). Most flowage levels are controlled by stop logs. Most flowages experience anaerobic conditions during severe winters. The area also has ponds and ditches which hold water on a seasonal basis.

Wildlife

The wildlife area is a pre-migration concentration area for Canada geese, mallards, wood ducks and blue-winged teal. Birds raised on cranberry marshes, beaver ponds and wetland within a 15-20 mile radius use Dike 17 as a loafing, feeding and staging area prior to migration. About 12-15 broods of geese and 24-30 duck broods are produced on the property annually. Fall populations of local geese and ducks number 200-300 and 250-400 respectively. Peak migrant goose populations have numbered 7,000 in recent years and the average is 2,500. Duck numbers have been as high as 4,000 and average 2,000.

Controlled burning and farming operations maintain excellent habitat for a remnant population of sharp-tailed grouse. Four to seven broods are raised annually and fall populations average 75. The prairie grass-lowland brush-marsh cropland mixture also supports a sandhill crane population. About 1-5 broods are raised annually and the local population numbers 50-70. Pre-migration staging numbers have reached 350 and average 225.

The bald eagle and eastern massasauga rattlesnake are endangered wildlife species commonly occurring on the property. Other endangered, threatened and uncommon species present include: osprey, double-crested cormorant, great egret, Cooper's hawk, red-shouldered hawk, Blanding's turtle, harrier, great blue heron, black duck, common loon, grasshopper sparrow, vesper sparrow and field sparrow.

Some other species commonly seen include: red-tailed hawk, short-eared owl, American bittern, green heron, pied-billed grebe, common snipe, blue and snow geese, kestrel, sora rail, American coot, killdeer, eastern hognose snake, bullsnake, eastern garter snake, northern leopard frog, white-tailed deer, raccoon, red fox, coyote, otter, mink, muskrat, beaver, snapping turtle, meadow vole and other common ducks, shorebirds and mammals.

Fish

Fish management capabilities are severely limited by the relatively sterile flowages and extensive winterkills. Fish species present include suckers, bullheads, northern pike, largemouth bass, yellow perch and several species of minnow. Area flowages are heavily used for minnow trapping by DNR fish operations crews and commercial bait dealers.

Flowage improvement (i.e., improving water quality, reducing winterkill, stocking) within the wildlife area is considered low priority in relation to the total area fish management program. Improvements would be cost prohibitive and could disrupt current management where flowages are drawndown and seeded to millet.

When several mild winters occur in succession, winterkill is reduced and fishing on area flowages improves. Good catches are made of northern pike, largemouth bass, yellow perch and bullheads. This situation is not considered normal and cannot be depended upon.

Vegetation

The wildlife area is a unique plant and animal association within the Black River State Forest. It offers diversity and a wetlands habitat as well as prairie vegetation (a complete inventory is lacking). It borders on being an uncommon plant community by statewide criterion, due mainly to controlled burning.

The property is delineated on the Black River State Forest as compartment number 55.

Cover Type	Acres
Lowland Brush	1,108
Marsh	1,125
Water	679
Cropland	198
Oak	125
Jack Pine	176
Aspen	107
Upland Brush	174
	3,692

Most of the lowland brush and some of the upland brush and marsh acreages have been altered by repeated burns. The lowland brush type has been sucessionally set back to include an abundance of grasses and prairie plants making a more valuable habitat type for the property.

Current Use

The property is used primarily by hunters and by the public for wildlife observation. About 2,800 hunter days of recreation occur on the wildlife area annually (2,000 waterfowl and 800 deer). Wildlife observation accounts for 2,500 participant days. About 1,500 participant days of snowmobiling occur on a designated trail. Fishing provides an additional 700 participant days and trapping 300.

Historical and Archaeological Features

The State Historical Society has been contacted and no architectural, archaeological or historical sites are located within the property boundary.

Land Use Classification

The entire property is classified as a Wildlife Management Area (RD_2) and is already intensively managed for waterfowl. The property as it exists, along with proposed management, would not fit such land use classifications as Wild, Natural, or Scientific. It does have unique aesthetic qualities in that it is a vast open area surrounded by forest.

MANAGEMENT PROBLEMS

Nine categories of management problems are associated with the Dike 17 Wildlife Area.

Public Access

A recent change in refuge status allowing increased public use has stirred local controversy. The main conflict is allowing early season bow deer hunting in the refuge where it didn't exist before and thereby creating the possibility of scaring geese from the refuge or disrupting feeding patterns prior to the waterfowl opening. Local users of the property are also concerned about protection of resident wildlife during the spring and summer months. They indicate preference for the more restrictive administrative code that existed prior to the change.

Refuge Status

Prior to September 1980	After September 1980
Closed when waterfowl are present	Closed
March 15 - November 30	October 1 - November 30

Further evaluation and study of this situation is required before a reasonable management decision can be made in the best interests of the public as to dates of closure.

Soils and Water

The soil is infertile requiring tons of expensive fertilizer to support farming operations, primarily for geese. Flowage soil and water is infertile thereby reducing growth and aquatic plants that serve as natural foods for waterfowl, other wildlife and fish species. The porous, sandy nature of the soil and muskrat damage to dikes causes a problem in maintaining proper flowage levels.

Water Supply

Many flowages do not have an adequate ground for surface water recharge. Most are dependent, to varying degrees, on annual rainfall for water levels conducive to waterfowl management. High evaporation rates due to large surface area and shallowness of flowages contributes to the problem.

Vegetation

Brush and tree encroachment requires constant burning, mowing and brushing to maintain the openness of the property, thus increasing costs. Flowage drawdowns for millet seeding increases the amount of undesirable sedge encroachment on flowage basins. Rotation of flowage drawdowns, and maintaining high water levels where possible in unseeded flowages, minimizes this encroachment.

Sharecropping

Numerous inquiries from within and outside the Department of Natural Resources as to why the property is not sharecropped rather than maintained by Department personnel is because of the lack of an adequate monetary incentive.

Soils are infertile requiring above normal fertilizer application and growing seasons are undependable due in part to low terrain (early settlers were relocated from this area to western Jackson county and other areas by the Resettlement Administration because it was difficult to farm profitably).

The nearest farmlands (potential sharecroppers) are located 4 miles to the south and are the only finger of farmlands projecting that close in any direction to the property excluding cranberry operations which differ entirely from normal upland farming.

Unlike farming for profit, where larger fields are worked, Dike 17 has several small fields located strategically for wildlife food sources requiring a greater degree of equipment movement.

In summary, soils are infertile, growing seasons are undependable, and above normal cos for fertilizer and equipment movement, reducing profit from a reasonable sharecrop agre

↑ Permits issued would ↑ hunters overcrowd ↓ wl habitat?

Hunting Pressure

Periodic overcrowding of waterfowl hunters along refuge lines reduces hunting quality. and study is required before any management decision can be made to correct the problem.

Law Enforcement

Shooting of closed season wildlife species (sandhill crane, sharp-tailed grouse) and illegal entry into the refuge on foot and by ORV's is fairly common. Increased patrol by law enforcement personnel would help minimize this problem.

Equipment

Two tractors of 1960's vintage are used for farming and are necessary for the ongoing operation. Proposed management hinges on their eventual replacement.

Trespass

Although not a current problem, explanation is made as to why 100 acres of the property is outside of the Black River State Forest boundary. In 1963, the refuge boundary was expanded and a line was mistakenly located and cleared on private lands owned by the Morrison Creek Cranberry Company and the Nekoosa Paper Company. In 1972, monetary restitution was made to the Morrison Creek Cranberry Company and that property has been leased at the present.

The Nekoosa Paper Company was contacted in 1972 and did not indicate any concern over this trespass matter, although contact will again be made to clarify their position in writing. The line remains essential as a refuge boundary.

RECREATION NEEDS AND JUSTIFICATIONS

The wildlife area is within reasonable driving distance of the following metropolitan areas and is expected to receive increased visitor pressure in the future.

City	Population (1980 census)	Direct Distance
Minneapolis-St. Paul	1,704,432 (1970)	125
Madison	170,616	110
Rochester	53,655 (1970)	100
Eau Claire	51,509	65
LaCrosse	48,347	45
Wausau	32,426	60
Stevens Point	22,970	50
Marshfield	18,290	30
Wisconsin Rapids	17,995	35

Populations of Jackson and surrounding counties are as follows:

County	Population (1980 census)
Jackson	16,831
Clark	32,910
Wood	72,799
Monroe	35,074
LaCrosse	91,056
Trempealeau	26,158
Eau Claire	78,805

The waterfowl management program meets a particular hunting recreational need in a part of the state generally lacking in such opportunities. Portions of the statewide Canada goose program goals (Comprehensive Fish and Wildlife Management Planning System) require maximum allowable goose hunting and public observational opportunities while achieving as wide a geographic distribution as possible. Dike 17 is the only goose management area in the administrative district (14 counties). It receives much of its hunting pressure from outside Jackson county. Hunting checks indicate many participants are from LaCrosse, West Salem, Neillsville, Wisconsin Rapids and much farther away. Approximately 10% of the district goose harvest occurs on Dike 17 (based on average annual harvest = 250, but has been as high as 600 in recent years). Projected participant days are indicated by the Comprehensive Fish and Wildlife Management Planning System for the district.

	1985 (District)	1985 (Dike 17)
Goose Hunter Days	14,000	2,000

An average of 2,000 participant days of waterfowl hunting and a harvest of 250 Canada geese occur annually on Dike 17. This is expected to continue at or above this level.

The wildlife area is within Region 12 (Wisconsin Outdoor Recreation Plan - 1977) and hunting participation is projected as follows:

No. of Annual Recreation Occasions

	1975	1980	1985	1995
Residents	121,100	124,600	128,900	134,700

The property meets a current (and growing) need for wildlife observational/study opportunities. The wildlife community is diverse and many of its representatives are in short supply regionally. This unique property supports a combination of geese, sandhill cranes, sharp-tailed grouse, deer, ducks, furbearers and endangered and threatened wildlife species in numbers that attract approximately 2,500 participant days of observation annually.

Camping, picnicking, hiking, skiing, off-road vehicular use, swimming and canoeing are all addressed in the Black River State Forest master plan. No development in any of these categories is planned.

ANALYSIS OF ALTERNATIVES

1. No management.

   a. Drastic declines in wildlife use and production would occur, particularly waterfowl and sharp-tailed grouse.
   b. Negative public opinion would result from loss of waterfowl hunting opportunities and wildlife observation.
   c. Eventual total loss of dikes and flowages would occur.

d. Current monetary expenditures for management would be saved.

e. Much of the area would revert to forest cover.

2. Manage for sharp-tailed grouse as a primary objective.

a. Less expensive.

b. Reduce cropping and flowage water level control would decrease waterfowl use and production.

c. Negative public opinion would result from loss of waterfowl hunting opportunities and wildlife observation.

d. There is a closed hunting season on sharp-tailed grouse in this area of the state.

3. Manage for timber production as a primary objective.

a. 400 acres are suitable for this purpose but would have to be converted in addition to the 400 acres of existing forest cover.

b. 200 acres of cropland critical to waterfowl management would be lost.

c. Negative public opinion would result from loss of waterfowl hunting opportunities and wildlife observation.

4. Manage fishery more intensively.

a. Flowages are infertile, shallow, and susceptible to winterkill.

b. Managing for fish would preclude certain flowage drawdowns for millet seeding and volunteer growth which provides waterfowl food.

c. Adequate numbers of flowages exist outside the wildlife area should more intensive fish management be desired.

d. Costs vs. returns may be prohibitive.

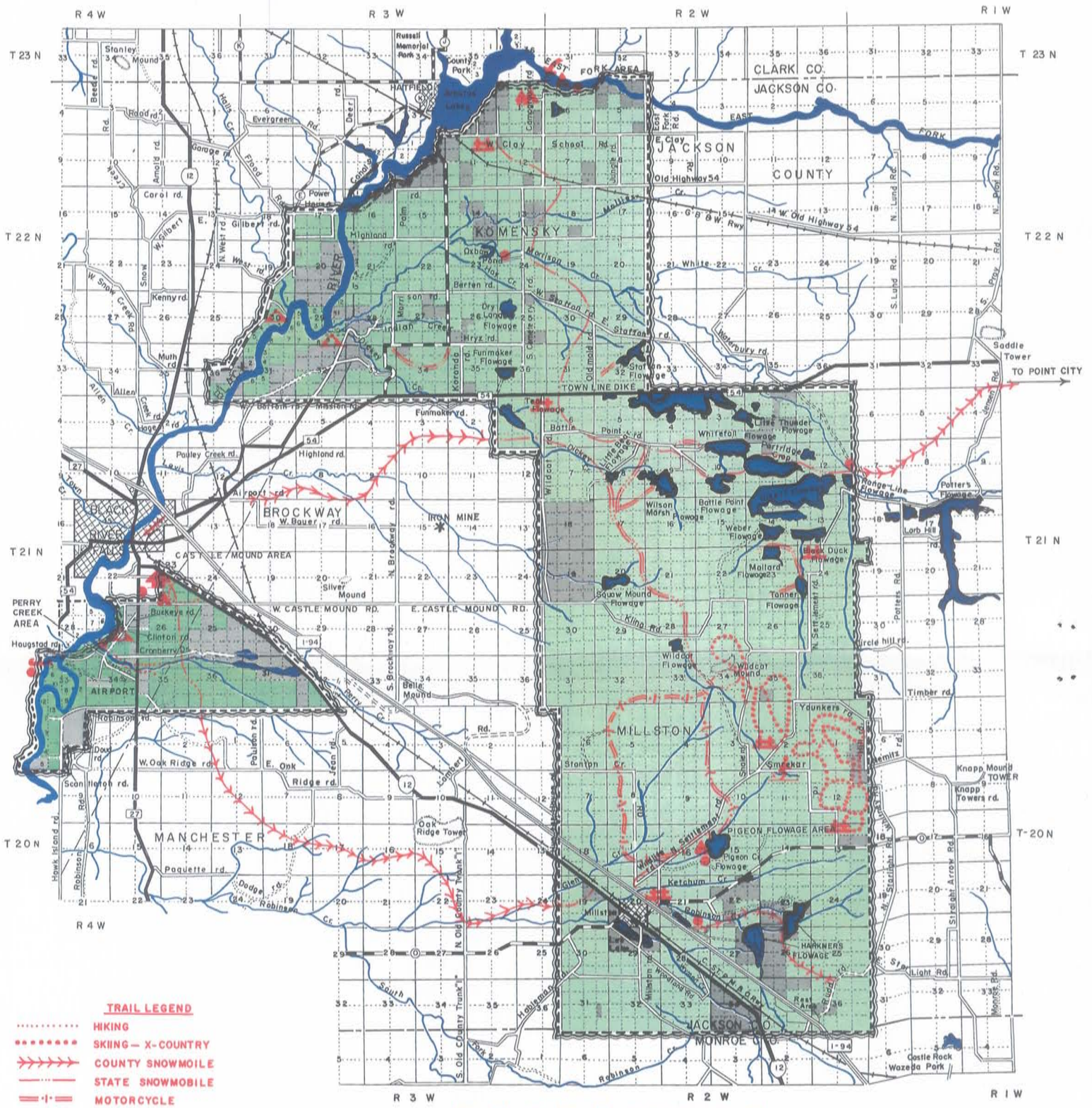
5. Designate as other than a Wildlife Management Area (RD_2)

Dike 17 does not meet the criteria for other designations if the proposed objectives are to be met. Further, the small property size coupled with a land character which has received considerable human disturbance limits its Natural Area, Wild Area or Scientific Area potential.

BLACK RIVER STATE FOREST

Wisconsin Department of Natural Resources

January 1982



TRAIL LEGEND

- HIKING
- SKIING — X-COUNTRY
- COUNTY SNOWMOILE
- STATE SNOWMOBILE
- MOTORCYCLE
- WILDLIFE

MAP SYMBOLS

- CAMPGROUND
- CANOE CAMPSITE
- CANOE LANDING
- PORTAGE
- BOAT LANDING
- FORESTRY HEADQUARTERS
- PARKING LOT
- PICNIC AND/OR SWIMMING
- X-COUNTRY SKI

RECREATION -INDEX-

		Water	Winter Camping	Camp Units	Swimming	Fishing	Shelter	Water	Drinking Water	Toilets	Trail Miles	NATURE	HIKING	X COUNTRY SKI	MOTORCYCLE	BACKPACKING	SNOWMOBILE	Handicap Fac.	Water	Reservation Acc.
CAMPGROUNDS	Castle Mound	X	X	37					X	X	X	1.5					48			
	Pigeon Creek	X	X	38	X	X			X	X	1.5	X								
	East Fork	X		26		X		X	X	X										
	East Fork(Group)			50					X	X										X
	Hawk Island(Canoe)			1		X														
TRAILS	Smrekar						X		X	X	17		X	X		X				
	Wild Cat						X		X	X	10		X	X		X				
	Perry Creek					X		X	X	X	5		X							
	Millston										12				X					
	Hwy 54										48						X			
	N. Settlement Rd.										48						X			
DAY USE	Robinson Beach				X	X		X	X	X								X		
	Oxbow					X			X	X								X		
	Range Line Flowage					X			X	X								X		

LEGEND

- VILLAGES & CITIES
- INTERSTATE HIGHWAY (I-94)
- FEDERAL HIGHWAYS (12)
- STATE HIGH WAYS (27)
- COUNTY TRUNK HIGHWAYS (O)
- TOWN ROADS
- UNIMPROVED ROADS
- POWER LINES
- COUNTY LINES
- DIKE OR DAM
- FOREST BOUNDARIES
- NON-STATE FOREST LANDS

NORTH

0 1 2 3 4 MILES

Revised-1-'82

Black River State Forest

Master Plan Public Meetings

The initial public meeting concerning the Black River State Forest Master Plan was conducted on April 17, 1980 at Black River Falls, at 7:45 p.m. Twelve citizens attended.

Questions and comments were as follows:

1. Questions were asked concerning the bidding procedure for sale of sphagnum moss.

2. Mr. Epstein suggested formation of a moss council to consist of industry, moss contractors and the state forest. This would serve as a vehicle for dialogue between those concerned with the moss industry.

3. Mrs. Gile requested information on backpacking.

4. Mr. & Mrs. Steele wanted to know if they could register backpackers at their bait shop because the DNR office is not always open on weekends.

5. Mr. & Mrs. Steele felt that proposed additional development at Castle Mound Campground would compete with private campgrounds.

6. Mr. Epstein suggested that the state acquire land around Lake Lee for beach development.

7. There was one question regarding state payments to towns in lieu of taxes.

The second public meeting was conducted after the master plan and environmental assessment were developed. This occurred on March 23, 1983 at Black River Falls. Fifteen citizens attended.

There was very little comment and few questions. There were no objections to proposals in the plan.

Examples are:

How much Red pine will be planted?

Will the meadows around the flowages be protected?

Do land use classes apply to private lands?

Where does money come from for land acquisition?